The PHOTOFACT® Servicer

SET 571 ★ *Published for all users of Howard W. Sams' Photofact Folders* ★MARCH 1962

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This Servicer provides you with essential data on other models or special equipment not covered in standard PHOTOFACT folders. The schematics and supplementary data included here will be of valuable help to you in servicing this equipment.

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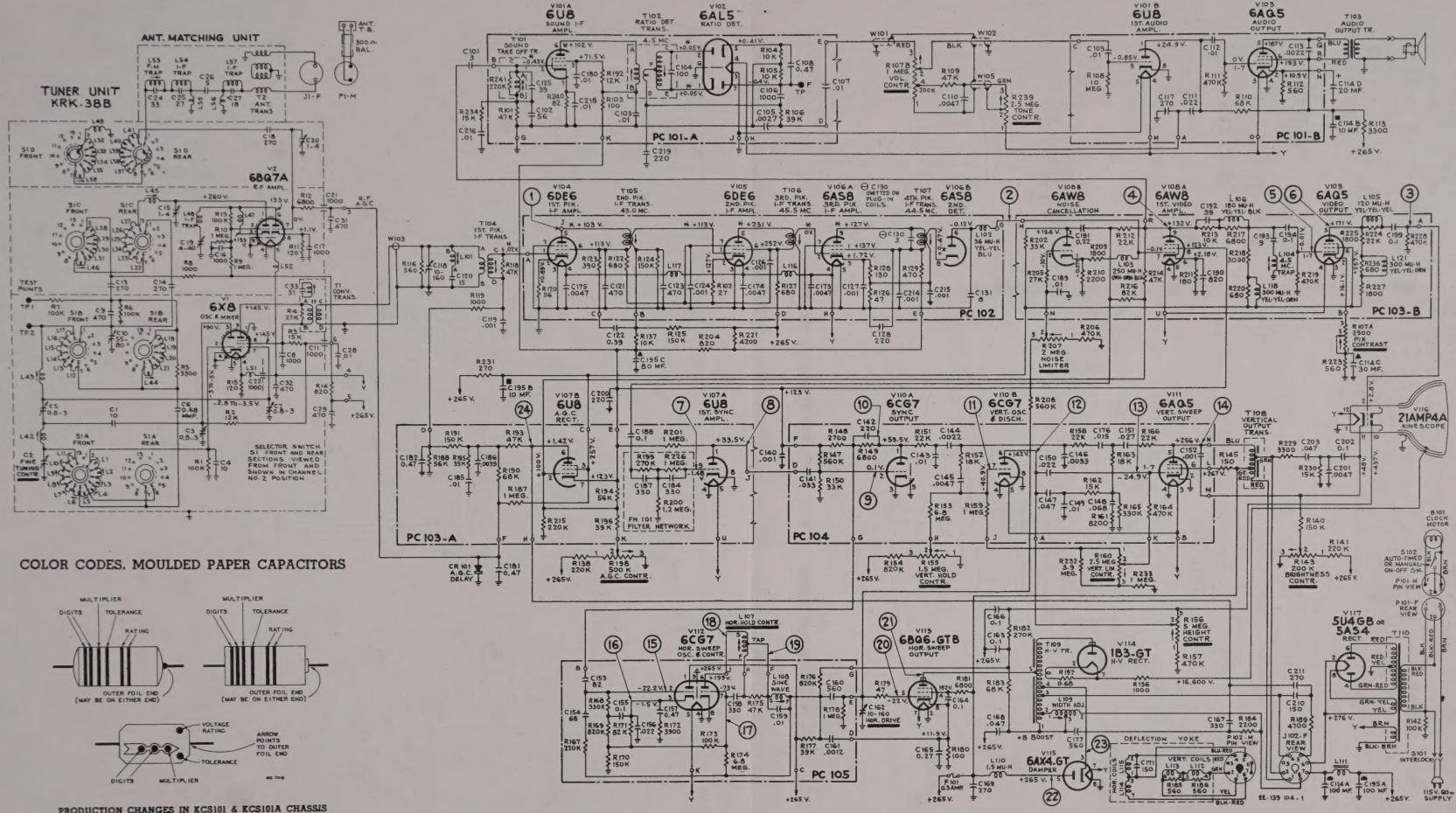
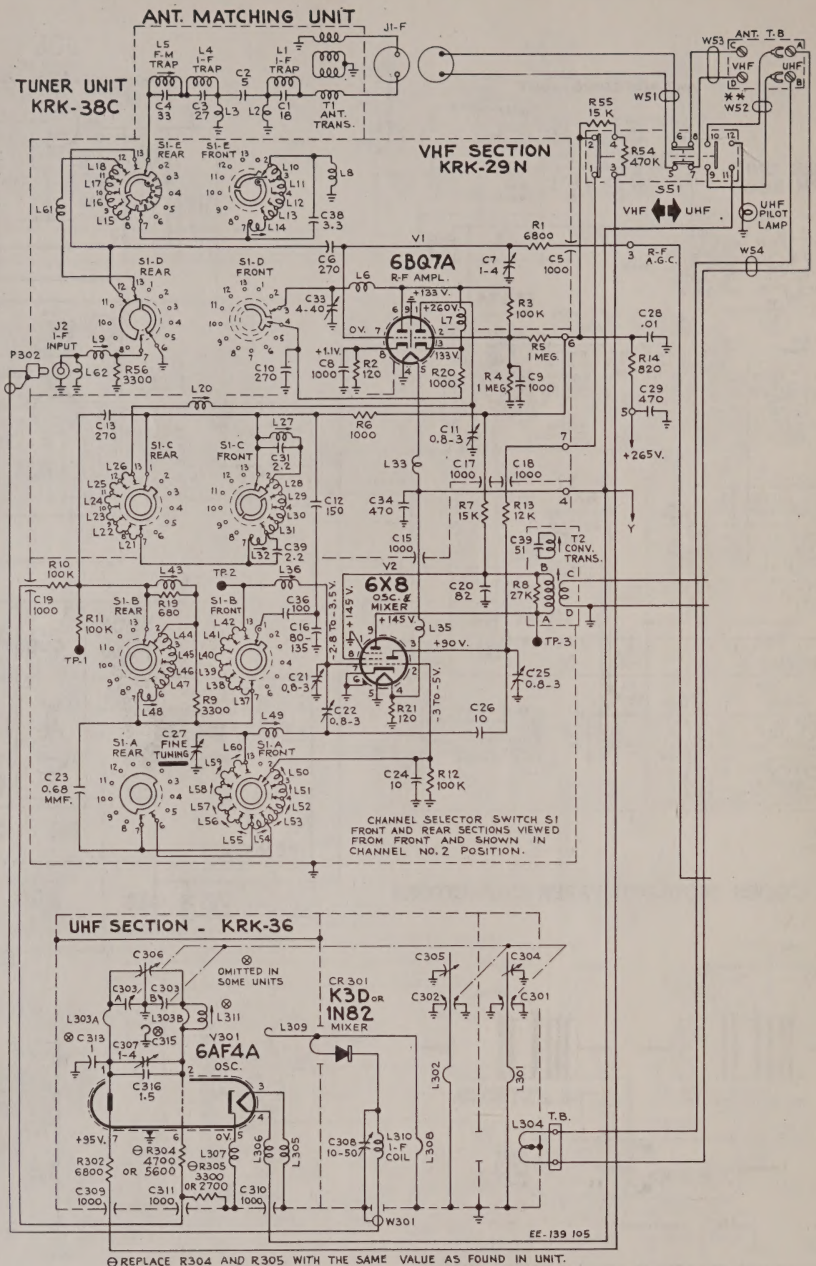
21T639, 21T639U
(CH. KCS101, A)



RCA VICTOR MODELS 21T639, 21T639U (CH. KCS101, KCS101A)

Schematic Diagram Courtesy of Radio Corporation of America



⊖ REPLACE R304 AND R305 WITH THE SAME VALUE AS FOUND IN UNIT.

Tuner Used With Chassis KCS101A

Schematic Diagram Courtesy of Radio Corporation of America

PHOTOFACT® Folder

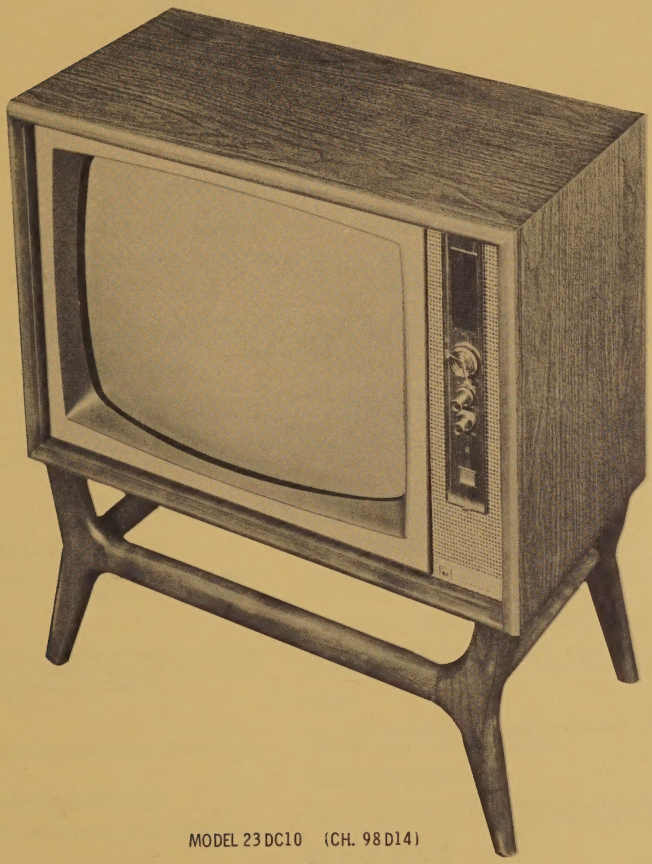
**PACKARD-BELL CHASSIS
98D14, 98D14C, 98D15**

IMPORTANT FILING NOTICE

The TV Folder for this envelope will be found among the first folders in this complete Set of folders..

Merely insert the corresponding folder on this model in this envelope to retain proper filing and indexing order.

PACKARD-BELL CHASSIS
98D14, 98D14C, 98D15



MODEL 23DC10 (CH. 98D14)

PACKARD-BELL CHASSIS
98D14, 98D14C, 98D15

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SET 571 FOLDER 1

PHOTOFACT® Folder

PACKARD-BELL CHASSIS 98D14, 98D14C, 98D15

PACKARD-BELL CHASSIS 98D14, 98D14C, 98D15

MODEL 23DC10 (CH. 98D14)

TRADE NAME	PACKARD-BELL MODELS	TV Chassis	Remote Control	VHF Tuner	† UHF Tuner
	23DC10, 23DC12, 23DC13, 23DD7, 23DD8, 23DT1	98D14	*	10708	
	23DC11	98D15	RM-500	10643B	or 10684
	27DD1	98D14C	*	10708	

* Remote Control Model RM-12-1 (Ch. WRT-6, WRR-8) or Model RM-14 (Ch. WRT-7, WRR-7) factory installed. Remote Control Kit Model RMK-12-1 (Ch. WRT-6, WRR-8) or Kit Model RMK-4 (Ch. WRT-7, WRR-7) may be used for field installation.

† UHF Tuner #10714A (Part of UHF Kit Assembly).

MANUFACTURER	Packard-Bell Electronics Corp., Service Div., 1920 So. Figueroa St., Los Angeles 7, California
TUBES	VHF - Nineteen, UHF - Twenty Remote Control Receiver - WRR-7: Seven, WRR-8: Five
POWER SUPPLY	110-120 Volts AC, 60 Cycle RATING 200 Watts, 1.6 Amp. @ 117 Volts AC (Less Remote)
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

PACKARD-BELL CHASSIS 98D14, 98D14C, 98D15

SERVICING IN THE FIELD

SAFETY GLASS REMOVAL - MODEL 23DC10:

For picture tube and safety glass cleaning, it is necessary to remove the chassis. (See "Disassembly Instructions".)

FUSE DEVICE

A Circuit Breaker is used for low voltage power supply protection, and may be reset by depressing the reset button. (For location, see "Tube Placement Chart".)

FUSE

Remote Control Receivers are protected by 3/4 Amp. Line Fuse.

TUNER #10708 OSCILLATOR ADJUSTMENT

Oscillator slugs are adjusted by means of fine tuning knob.

AGC

The AGC may be varied by means of an AGC Control. (See "Tube Placement Chart" for location.)

FOCUS

The focus may be varied by means of a Focus Control. (See "Tube Placement Chart" for location.)

SYNC STABILITY

Sync stability may be varied by means of an ANI Control. (See "Tube Placement Chart" for location.)

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The Horizontal Stabilizer Coil Slug is used for the Horizontal Hold. (For location, see "Tube Placement Chart".)

WIDTH

The width may be varied by a Width Coil Slug. (See photo "Cabinet - Rear View" for location.)

HORIZONTAL DRIVE

The horizontal drive may be varied by a Horizontal Drive Control. (For location, see "Tube Placement Chart".)

BUZZ ADJUSTMENT

To eliminate intercarrier buzz, adjust the Ratio Detector secondary (A12) located at bottom of chassis.

CENTERING

Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.

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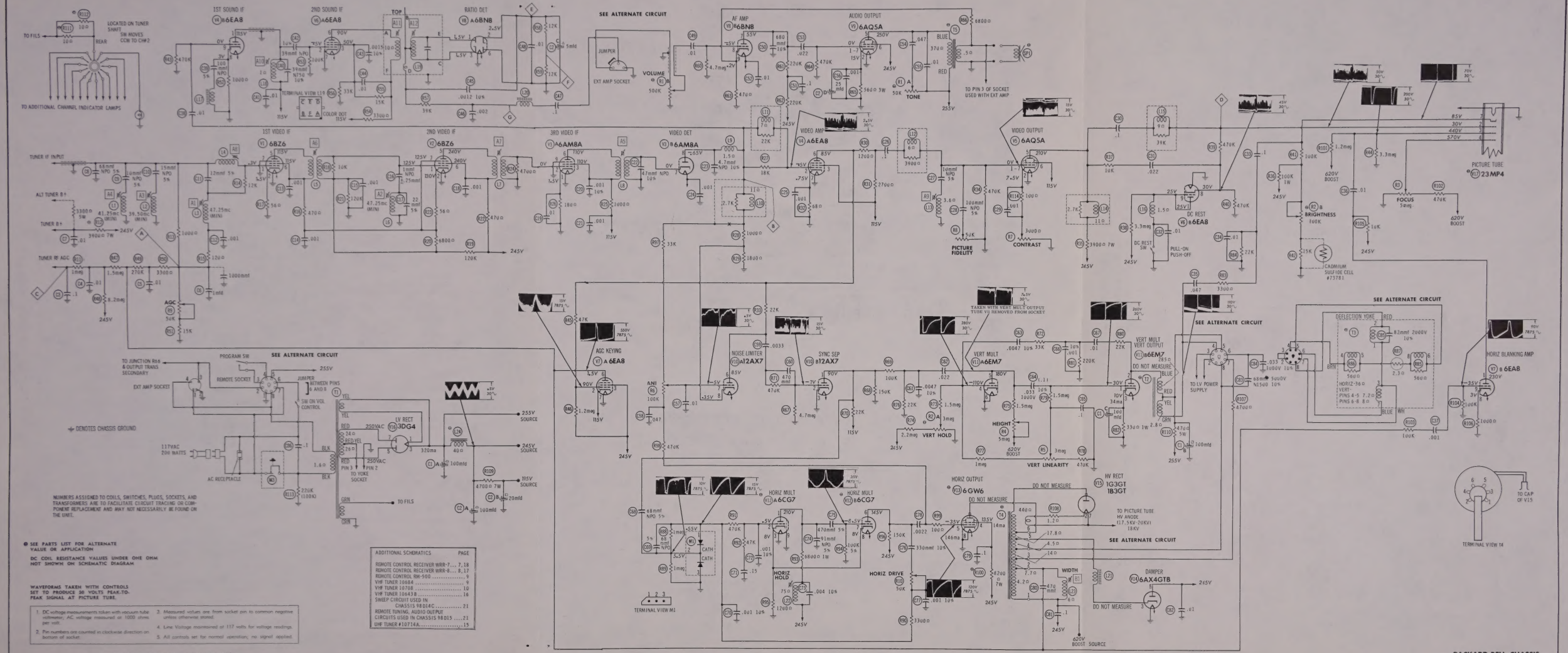
LA333

SET 571 FOLDER 1


SEE ALTERNATE CIRCUIT
TO ADDITIONAL CHANNEL INDICATOR LAMPS
LOCATED ON TUNER SHAFT
SW MOVES CCW TO CH#2
1ST SOUND IF
2ND SOUND IF
RATIO DET
AF AMP
AUDIO OUTPUT
VOLUME
TONE
JUMPER
EXT AMP SOCKET
TO PIN 3 OF SOCKET USED WITH EXT AMP
1ST VIDEO IF
2ND VIDEO IF
3RD VIDEO IF
VIDEO DET
VIDEO AMP
VIDEO OUTPUT
PICTURE FIDELITY
CONTRAST
DC REST
PULL-ON PUSH-OFF
BRIGHTNESS
FOCUS
620V BOOST
CADMIUM SULFIDE CELL #737B1
PICTURE TUBE
TUNER IF INPUT
ALT TUNER B+
TUNER B+
TUNER RF AGC
AGC
AGC KEYING
NOISE LIMITER
SYNC SEP
VERT MULT
VERT HOLD
HEIGHT
VERT LINEARITY
VERT MULT VERT OUTPUT
DEFLECTION YOKE
HORIZ-36Ω VERT-PINS 4-5 7.2Ω PINS 6-8 8Ω
TO LV POWER SUPPLY
HORIZ BLANKING AMP
PROGRAM SW
REMOTE SOCKET
SW ON VOL CONTROL
LV RECT
117VAC 200 WATTS
AC RECEPTACLE
TO FILS
TO YOKE SOCKET
255V SOURCE
245V SOURCE
115V SOURCE
HORIZ MULT
HORIZ HOLD
HORIZ DRIVE
HORIZ OUTPUT
DO NOT MEASURE
HV RECT
TO PICTURE TUBE HV ANODE
17.5KV-20KV
18KV
WIDTH
DAMPER
620V BOOST SOURCE
TERMINAL VIEW M1
TERMINAL VIEW T4
TO CAP OF V15
DENOTES CHASSIS GROUND
NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM
WAVEFORMS TAKEN WITH CONTROLS SET TO PRODUCE 30 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE.
1. DC voltage measurements taken with vacuum tube voltmeter; AC voltage measured at 1000 ohms per volt.
2. Pin numbers are counted in clockwise direction on bottom of socket.
3. Measured values are from socket pin to common negative unless otherwise stated.
4. Line Voltage maintained at 117 volts for voltage readings.
5. All controls set for normal operation; no signal applied.
ADDITIONAL SCHEMATICS PAGE
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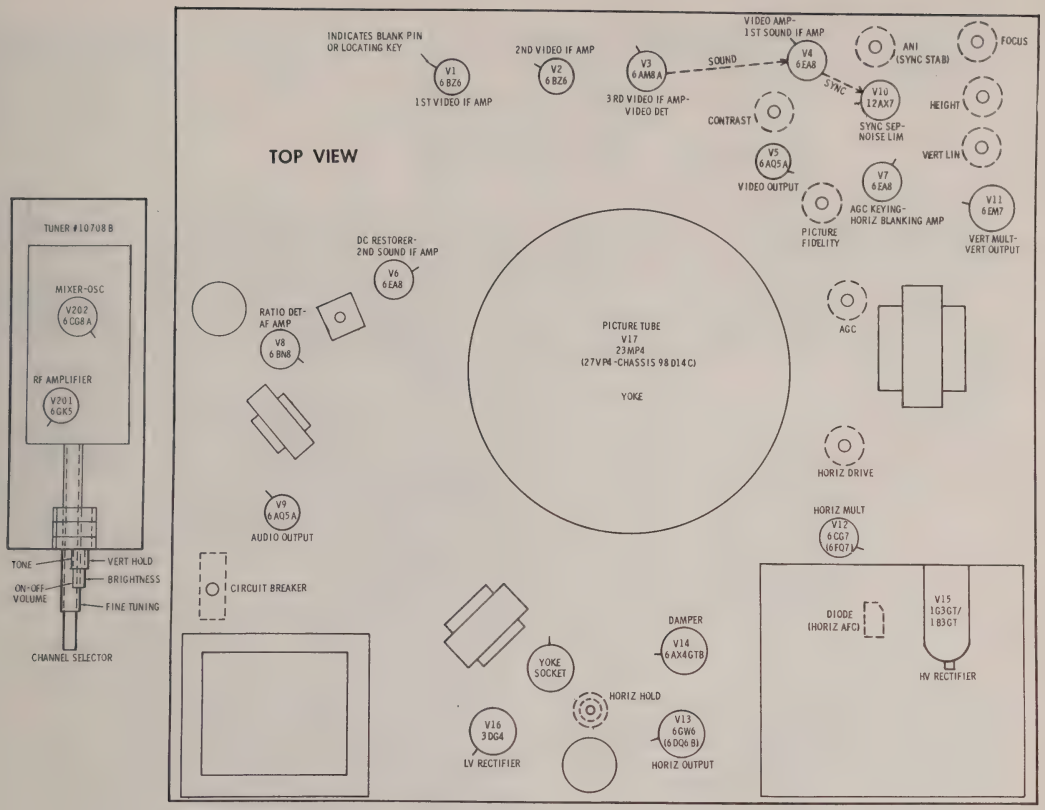
PACKARD-BELL CHASSIS
98D14, 98D14C, 98D15

TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

POWER SUPPLY FAILURE
No raster, no sound Circuit Breaker, V16

SWEEP FAILURE
No raster, has sound V12, V13, V14, V15, V17
No vertical deflection V11
Poor vert. linearity or foldover V11
Poor horiz. linearity or foldover V12, V13, V14
Narrow picture V12, V13, V14, V16
Vert. off freq. V11
Horiz. off freq. Diode (Horiz. AFC), V12

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster V1, V2, V3
No pic, no sound, has snow V201, V202, V1
No pic, has sound, has raster V4, V5, V17
Has pic, no sound V4, V6, V8, V9
Overloaded picture V7

SYNC FAILURE
No vert. sync V10
No horiz. sync V10
No vert. or horiz. sync V10

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools:

A1 thru A8, A10	GENERAL CEMENT #8721, 8722 WALSCO #2519
A9	GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8987 WALSCO #2531
A12, A13	GENERAL CEMENT #8282, 8606, 8606L, 9295 WALSCO #2526, 2543, 2544, 2545
Mixer Plate Coil ...	GENERAL CEMENT #9296, 9297 WALSCO #2546, 2547

VIDEO IF ALIGNMENT

Remove Noise Limiter tube from its socket.
Connect the negative lead of a 6 volt bias supply to point Ⓐ. Positive to chassis.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Place a thin insulated metal strip between the Mixer-Osc. tube (V202), and tube shield. Connect the high side of sweep generator to the metal strip. Low side to chassis.	47.25MC (Unmod.)	Any non-interfering channel	DC probe thru 10K to point Ⓑ. Common to chassis. (Across Video Det. Load).	A1, A2	Set the generator output at maximum. Adjust for MINIMUM deflection.
2.	"	39.5MC	"	"	A3	"
3.	"	41.25MC	"	"	A4	"
4.	"	44MC	"	"	A5	Use only enough generator output to provide a usable indication on VTVM. Adjust for maximum deflection.
5.	"	45.0MC	"	"	A6	"
6.	"	43.0MC	"	"	A7	"
7.	"	45.75MC	"	"	A8	"
8.	"	45.0MC	"	"	Mixer Plate Coil	"

OVERALL VIDEO IF RESPONSE CHECK

Connect bias as under "Video IF Alignment".
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Connect high side of a separate signal generator to ground lead of IF input cable to provide markers. DO NOT connect low side of generator.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
9.	Across antenna terminals with 120Ω in each lead.	63MC (10MC Swp.)	41.25MC 43.0MC 45.0MC 45.75MC 47.25MC	3	Vert. Amp. thru 22K to point Ⓑ. Low side to chassis. DC probe of VTVM to point Ⓒ. Common to chassis.		Adjust sweep output to develop -4 volts or less on AGC line as indicated by VTVM. Check for response curve similar to Fig. 1 with markers as shown. If necessary, retouch Mixer Plate Coil to position 45.75MC marker at 50%, A7 to position 43.0MC marker at corner of curve and A8 and A5 for correct tilt, dip or hump. A8 will affect higher frequency part and A5 the lower frequency. Replace V10

4.5MC TRAP ALIGNMENT

Remove Video Detector tube from its socket.

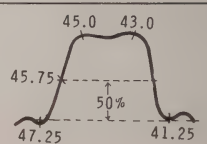
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
10.	High side thru .01mfd to point Ⓑ. Low side to chassis.	4.5MC (Unmod.)	Any non-interfering channel	RF probe to point Ⓓ. Common to chassis.	A9	Adjust for MINIMUM deflection. Replace Video Det. tube in its socket.

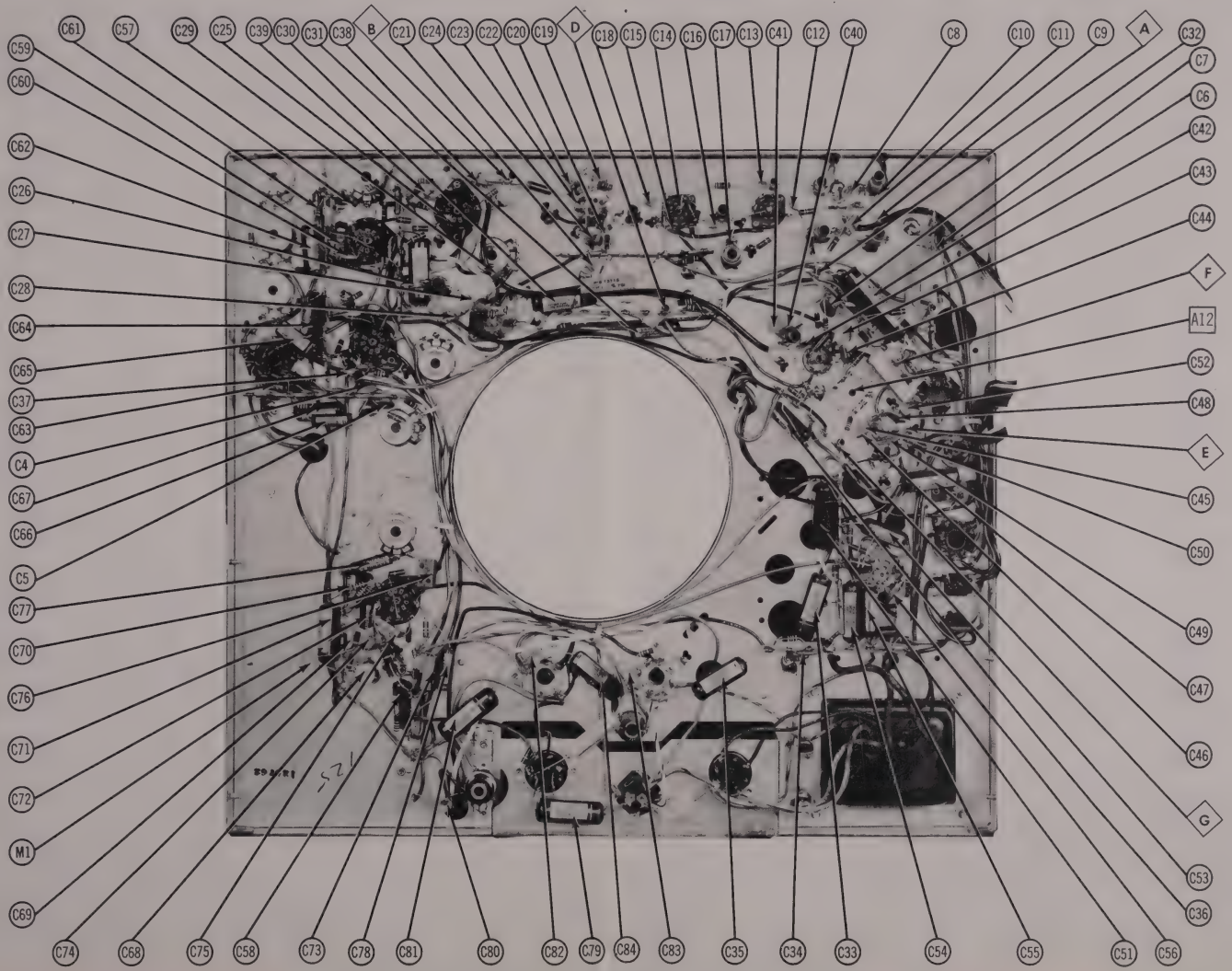
SOUND IF ALIGNMENT

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
11.	High side thru .01mfd to point Ⓑ. Low side to chassis.	4.5MC (Unmod.)	Any non-interfering channel	DC probe to point Ⓕ. Common to chassis.	A10, A11,	Adjust for maximum deflection.
12.	"	"	"	DC probe to point Ⓔ. Common to point Ⓖ.	A12	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

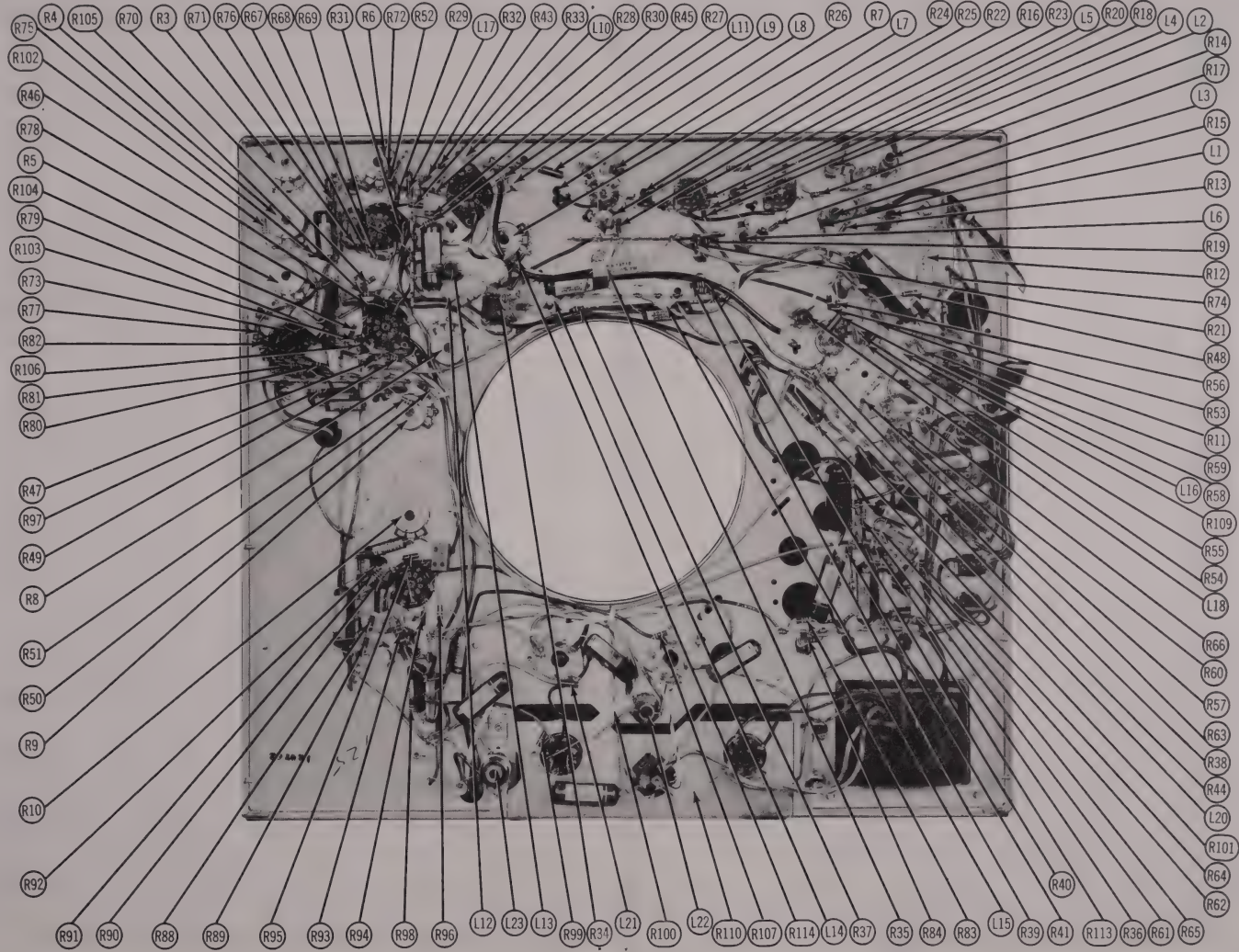
ALIGNMENT IDENT. PHOTOS - PAGES 5, 23.

FIG. 1

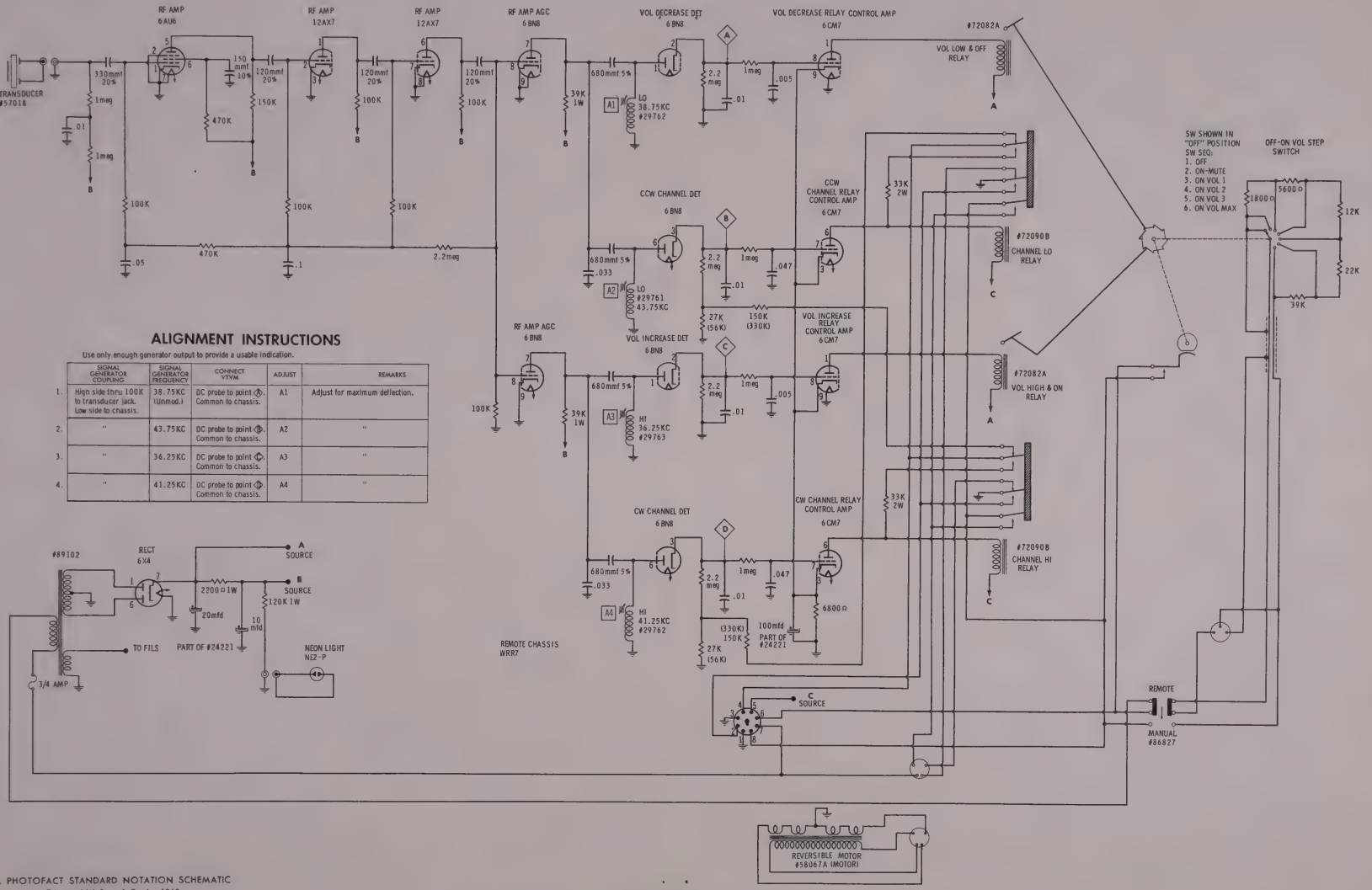




TV CHASSIS BOTTOM VIEW - ALIGNMENT, CAPACITOR, MISC. IDENT.



TV CHASSIS BOTTOM VIEW - RESISTOR, INDUCTOR IDENT.



ALIGNMENT INSTRUCTIONS

Use only enough generator output to provide a usable indication.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CONNECT VTVM	ADJUST	REMARKS
1.	High side thru 100K to transducer jack. Low side to chassis.	38.75KC (Unmod.)	DC probe to point A. Common to chassis.	A1	Adjust for maximum deflection.
2.	"	43.75KC	DC probe to point B. Common to chassis.	A2	"
3.	"	36.25KC	DC probe to point C. Common to chassis.	A3	"
4.	"	41.25KC	DC probe to point D. Common to chassis.	A4	"

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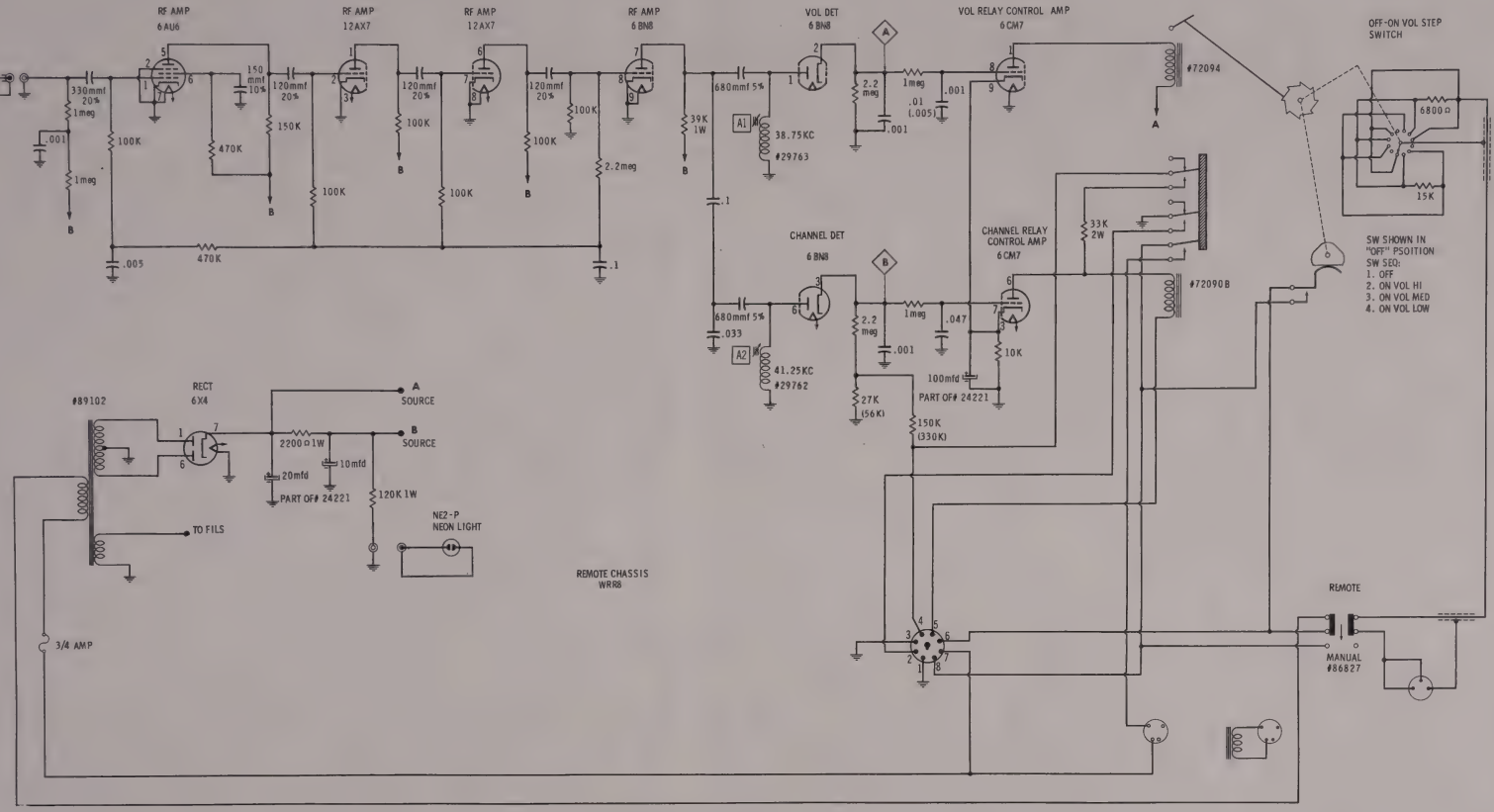
REMOTE CONTROL RECEIVER WRR-7



ALIGNMENT INSTRUCTIONS

Use only enough generator output to provide a usable indication.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CONNECT VTVM	ADJUST	REMARKS
1.	High side thru 100K to transducer jack. Low side to chassis.	38.75KC (Unmod.)	DC probe to point Ⓐ. Common to chassis.	A1	Adjust for maximum deflection.
2.	"	41.25KC	DC probe to point Ⓑ. Common to chassis.	A2	"

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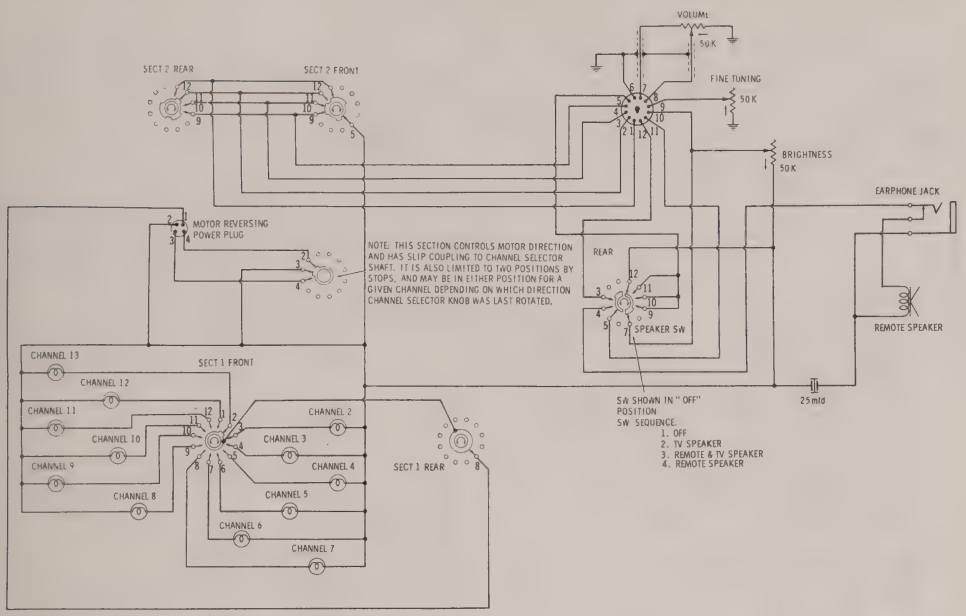
REMOTE CONTROL RECEIVER WRR-8



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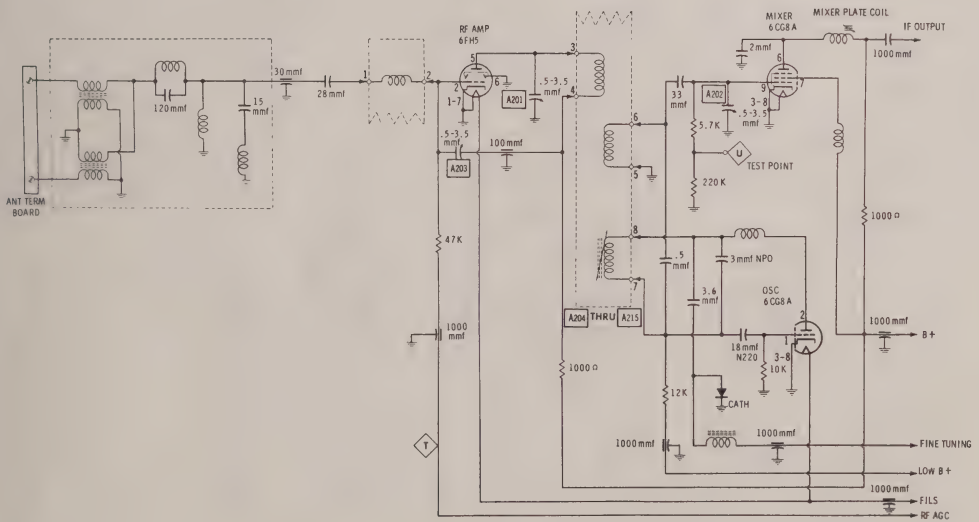
REMOTE CONTROL RM-500



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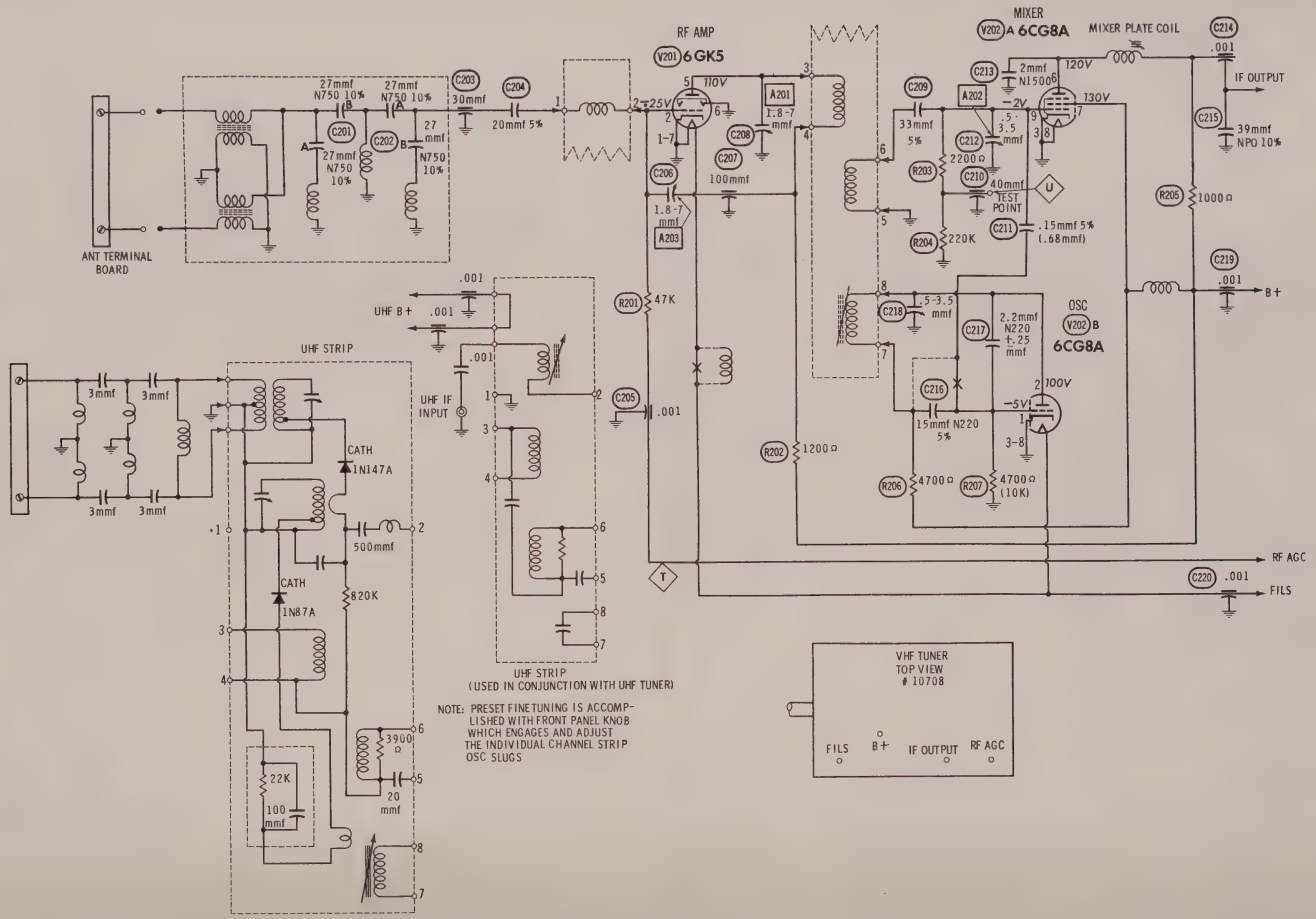
VHF TUNER 10684



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VHF TUNER 10708

VHF TUNER ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

The High Voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A201 thru A203 ..... GENERAL CEMENT #5000, 5003, 5014, 5015, 5016, 8276, 8290
WALSCO #2512, 2515, 2522, 2523, 2525, 2537
A204 thru A215 ..... GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8987
WALSCO #2531

RF AND MIXER ALIGNMENT

Connect the negative lead of a 4 volt bias supply to point Ⓣ . Positive to chassis.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Turn Contrast fully clockwise.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	195MC	193.25MC 197.75MC	10	Vert. Amp. to point Ⓣ . Low side to chassis.	A201, A202, A203	Adjust A201 and A202 for maximum amplitude and symmetry with markers as shown in Fig. 201. Increase bias for MINIMUM amplitude of response curve. Without changing the bias adjust A203 to obtain MINIMUM response on the scope.
2.	"	"	213MC	211.25MC 215.75MC	13	"		Check for response curve similar to Fig. 201. If markers fall below 70% on any channel, make compromise adjustment of A201 and A202 with channel switch set to that channel. Check to see that other channels have not been seriously affected.
			207MC	205.25MC 209.75MC	12			
			201MC	199.25MC 203.75MC	11			
			195MC	193.25MC 197.75MC	10			
			189MC	187.25MC 191.75MC	9			
			183MC	181.25MC 185.75MC	8			
			177MC	175.25MC 179.75MC	7			
			85MC	83.25MC 87.75MC	6			
			79MC	77.25MC 81.75MC	5			
			69MC	67.25MC 71.75MC	4			
			63MC	61.25MC 65.75MC	3			
			57MC	55.25MC 59.75MC	2			

FIG 201

OSCILLATOR ALIGNMENT (Tuners 10684, 10643B)

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the Fine Tuning to the center of its range.
Use only enough sweep generator output to provide a usable pattern on scope.
Use 10MC sweep unless otherwise noted.
Connect variable bias to IF AGC line. Adjust bias to obtain response curve which shows no indication of overloading.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. Amp. thru 10K across Video Det. load.	A204	Adjust to place sound marker in trap notch as in Fig. 202. Video marker should fall at 50%.
			207MC	205.25MC 209.75MC	12		A205	
			201MC	199.25MC 203.75MC	11		A206	
			195MC	193.25MC 197.75MC	10		A207	
			189MC	187.25MC 191.75MC	9		A208	
			183MC	181.25MC 185.75MC	8		A209	
			177MC	175.25MC 179.75MC	7		A210	
			85MC	83.25MC 87.75MC	6		A211	
			79MC	77.25MC 81.75MC	5		A212	
			69MC	67.25MC 71.75MC	4		A213	
			63MC	61.25MC 65.75MC	3		A214	
			57MC	55.25MC 59.75MC	2		A215	

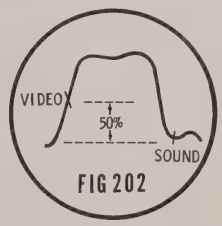


FIG 202

TV PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	GENERAL ELECTRIC • USE	TYPE	ITEM No.	RAYTHEON • SYLVANIA • USE	TYPE
V1	1st Video IF Amp.	6BZ6	V8	Ratio Detector - AF Amp.	6BN8
V2	2nd Video IF Amp.	6BZ6	V9	Audio Output	6AQ5A
V3	3rd Video IF Amp. - Video Detector	6AM8A	V10	Sync Separator - Noise Limiter	12AX7
V4	Video Amp. - 1st Sound IF Amp.	6EA8	V11	Vert. Mult. - Vert. Output	6EM7
V5	Video Output	6AQ8A	V12	Horiz. Mult.	6CG7 (6FQ7) *
V8	DC Restorer - 2nd Sound IF Amp.	6EA8	V13	Horiz. Output	6GW8 (6DQ6B) *
V7	AGC Keying - Horiz. Blanking Amp.	6EA8	V14	Damper	6AX4GTB
			V15	HV Rectifier	1G3GT/ABRGT
			V16	LV Rectifier	3DG4

* Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA: Packard-Bell PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	NOTES
V17	23MP4 21VP4 *	23MP4 ①	23MP4 ① 21VP4 ①		23MP4 ③	① Aluminized ③ Silver Screen "85"

* Used in Chassis 98D14C

ELECTROLYTIC CAPACITORS

ITEM No.	RATING: CAP.	VOLT.	REPLACEMENT DATA: Packard-Bell PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	≥100	350	34226	AFH3-174-50	B9323	XC4-85	FP327.7	TMD-3435	TVL-3541
B	≥100	350			BR100-25		TC2501	TD-100-25	TVA-1207
C	100	25							
C2A	≥100	350	34304	AFH4-53-90	D0473.3	XC4-35	FP420.405	TMQ-4448	TVL8-4607.5 *
B	≥20	350					TC26		
C	≥5	50							
D	25	25							

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA: AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	.1	200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C4	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C5	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C6	1mfd	100V		P288N-1.0		CUB2W1	1DP-5-105	GEM-21	2TM-M1
C7	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C8	68	NPO	5%		DTZ-4S	C10G68C	CM-19B-680J	CNO-468	10TCC-Q68
C9	10	NPO	5%	NPO-DI 10	DTZ-10	C10Q1C	CM-19B-100J	CNO-410	10TCC-Q10
C10	15	NPO	5%		DTZ-15	C10Q15C	CM-19B-150J	CNO-415	10TCC-Q15
C11	1.8		5%		TCZ-1.8	22RS-GZ1	CM-19B-1R5J	CNO-413	MS-413
C12	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C13	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C14	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C15	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C16	1mmf	NPO	a..25mmf	NPO-DI 1.0	TCZ-1			CNO-510	10TCC-V10
C17	33		5%	1469-000033	TCZ-33	22RS2Q2	CM-19B-220J	CNO-422	MS-422
C18	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C19	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C20	.01		10%	DI-1000	DD-102	PM6DL	CCD-102	GP210	10TS-D10
C21	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C22	47	NPO	10%	NPO-DI 47	DTZ-47	C10Q47C	CCTO-470	CNO-447	10TCC-Q47
C23	4.7	NPO	10%	NPO-DI 4.7	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C24	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C25	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C26	.1	600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C27	10	NPO	5%	NPO-DI 10	DTZ-10	C10Q1C	CM-19B-100J	CNO-410	10TCC-Q10
C28	100	NPO	5%		DTZ-101	C10T1C	CM-19B-101J	CNO-510	10TCC-T10
C29	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C30	.1	600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C31	.033	600V		P688N-033	DD-303	CUB6S22	6DP-2-223	GEM-6122	6TM-S22
C32	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C33	.1	600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C34	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C35	.047	600V		P688N-047	DD-503	CUB6S47	6DP-3-473	GEM-6147	6TM-S47
C36	.01	600V		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S10
C37	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C38	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C39	100	NPO	5%		TCZ-100	C10T1C	CM-19B-101J	CNO-510	10TCC-T10
C40	39	N750	10%		TCN-39	C10Q39U	CCTN-390	CN7-439	10TCU-Q39
C41	.01			BPD-01	DD-103	BYA10DI	CCD-103	B-110	5HK-S10
C42	39	NPO	10%	NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-439	10TCC-Q39
C43	.0015		10%	DI-1500	DD-152	PM6DS	CCD-152	GP215	10TS-D15
C44	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C45	.0012		10%	DI-1200	DD-122	SR3D3	CCD-122	GP212	10TS-D12
C46	.002			BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C47	.1	200V		P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C48	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C49	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C50	680		10%	DI-681	SR3T68		CCD-681	GP268	10TS-T68
C51	.1	600V		P688N-1	DF-104	DF-104	6DP-4-104	GEM-601	6TM-P10
C52	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C53	.022	400V		P488N-022	DD-303	CUH6S22	4DP-2-223	GEM-4122	4TM-S22
C54	.047	600V		P688N-047	DD-503	CUB6S47	6DP-3-473	GEM-6147	6TM-S47
C55	.01	600V		P688N-01	D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S10
C56	.001			BPD-001	DD-102	BYA10DI	CCD-102	B-210	5HK-D10
C57	.01			BPD-01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10
C58	.047	200V		P288N-047	DD-503	CUB2S47	2DP-3-473	GEM-4147	2TM-S47
C59	.0033	400V		P488N-0033	DF-332	CUH6D33	4DP-3-332	GEM-6233	6TM-D33
C60	470			DL-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C61	.0047	600V	10%	V84C6D47-10%			6DP-1-472	GEM-16247	6TM-D47
C62	.022	600V		P688N-022	DD-303	CUB6S22	6DP-2-223	GEM-6122	6TM-S22
C63	.0047	600V	10%	V84C6D47-10%			P68D47	6DP-1-472	GEM-16247	6TM-D47
C64	.033	1000V	10%	P1084CM-033			DPM5S8S33	10DP-5-333	GFM-1033	10TM-S30
C65	.1	200V		P288N-1		DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C66	.001	600V	10%	V84C6D1-10%		DD-102	PM6DL	6DP-1-102	GEM-1621	6TM-D10
C67	.01	600V		P688N-01		D6-103	CUB6S1	6DP-2-103	GEM-611	6TM-S10
C68	68	NPO	5%			DTZ-68	C10Q68C	CM-19B-680J	CNO-468	10TCC-Q68
C69	68	NPO	5%			DTZ-68	C10Q68C	CM-19B-680J	CNO-468	10TCC-Q68
C70	.001	600V	10%	V84C6D1-10%		DD-102	PM6DL	6DP-1-102	GEM-1621	10TM-D10
C71	.18	200V		P288N-15			CUB2P15	2DP-3-154	GEM-2015	2TM-P15

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA: AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C72	.001 500V 10%		DD-102	PM6DL	6DP-1-102	GEM-1621	6TM-D10	
C73	.004 10%		1464-004		IR5D4	CM-20B-402J	MCR463	MS-491
C74	91 NPO 5%	TCZ-91		C10Q1C	CM-19B-910J			MS-491
C75	470 5%		1469-00047		5R5T47	CM-19B-47J	MCR444	MS-347
C76	330 10%		1469-00033		5R5T33	CM-19B-331K	MCR341	MS-333
C77	.001 600V 10%	DD-102	PM6DL		6DP-1-102	GEM-1621	6TM-D10	
C78	.0022 600V	D6-222	CUB6D22	6DP-1-222	GEM-6222	6TM-D22		
C79	.1 600V	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10		
C80	470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47		
C81	.1 600V	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10		
C82	.01	DD-103	BYA10SL	CCD-103	B-110	5HK-S10		
C83	88 3000V N1500 10%	#24549						
C84	.033 1000V 10%	P1084CM-033		DPM5S8S33	10DP-5-333	GEM-1633	10TM-S30	
C85	82 2000V 10%			HV20Q82	VCM-20-820K	EDY-4S2		
C86	.1 200V	P288N-1	DF-104	CUB2P1	2DP-3-104	GEM-201	2TM-P10	

† Value used on Chassis stamped lower than 3547. # Packard-Bell Part Number

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA: Packard-Bell PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	50K	25645A ①				
B	Volume, with Switch (Push-Pull Off-On)	500K					
R2A	Vert. Hold	3meg	25646A ②				
B	Brightness, with Switch (Push-Pull DC Restorer)	100K					
R3	Focus	5meg	25910		T7-87, or (AB-87, AK-19)	B47-5meg-8	HLC-5
R4	Height	5meg	25910		T7-87, or (AB-87, AK-19)	B47-5meg-8	HLC-5
R5	Vert. Linearity	3meg	25867		BX-84, or BX-94	B47-3meg-8	HLC-3
R6	ANI	100K	25633		T7-40, or BX-40	B47-100K-8	Bi7-128, T4M or (Bi11, CF13, S86) †
R7	Contrast	3000Ω	25851		B-705, or (AB-705, AK-19)	B47-2500-8	Bi7-112, T4M or (Bi11, CF23, S86) †
R8	Picture Fidelity	50K	25650		T7-31, or BX-31	B47-50K-8	Bi1-123, T4M or (Bi11, CF12, S86) †
R9	AGC	50K	25908		T7-31, or BX-31	B47-50K-8	Bi1-123, T4M or (Bi11, CF12, S86) †
R10	Horiz. Drive	50K	25908		T7-31, or BX-31	B47-50K-8	Bi1-123, T4M or (Bi11, CF12, S86) †

ITEM No.	USE	REPLACEMENT DATA: CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	‡	*
B	Volume, with Switch (Push-Pull Off-On)		
R2A	Vert. Hold	†† GJ-1404	
B	Brightness, with Switch (Push-Pull DC Restorer)		
R3	Focus	HLC-5	PTA56L, or TA56L
R4	Height	HLC-5	PTA56L, or TA56L
R5	Vert. Linearity	HLC-3	TA56L, or SU-59
R6	ANI	Bi1-128, T4M or (Bi11, CF13, S86) †	PTA51, or TA51
R7	Contrast	Bi7-112, T4M or (Bi11, CF23, S86) †	U9
R8	Picture Fidelity	Bi1-123, T4M or (Bi11, CF12, S86) †	PTA54L, or TA54L
R9	AGC	Bi1-123, T4M or (Bi11, CF12, S86) †	PTA54L, or TA54L
R10	Horiz. Drive	Bi1-123, T4M or (Bi11, CF12, S86) †	PTA54L, or TA54L

① Chassis 98D15 uses Tone Control Part #25654. * "STA-LOC" Equivalent: FB54A, RUP55A, C8875A.
② Chassis 98D15 uses Vert. Hold Part #25656. ‡ "SNAPTROL" Equivalent: S1A.
† "CONCENTRIKIT" Equivalent: K-16 Kit with Base Elements and Shafts: B13-123, P17-028 (Panel), B13-133, R24-115 (Rear).
†† "CONCENTRIKIT" Equivalent: K-16 Kit with Base Elements and Shafts: B11-140, P17-028 (Panel), B11-138, R24-115 (Rear).
"SNAPTROL" Equivalent: BU8, CF2B, SF5, CR8, SR16, K.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	WORKMAN TV PART No.	REMARKS
R11	1meg			
R12	3900Ω TW	PWT-3900	TW-SQ-3900	Note 1
R13	1000Ω			
R14	12K			
R15	120Ω			
R16	470Ω			
R17	56Ω			
R18	10K			
R19	120K			
R20	6800Ω			
R21	120K			
R22	470Ω			
R23	56Ω			
R24	4700Ω			
R25	1000Ω			
R26	180Ω			
R27	18K			
R28	1000Ω			
R29	1800Ω			
R30	1200Ω			
R31	2700Ω			
R32	68Ω			
R33	22K			
R34	470K			
R35	3900Ω TW	PWT-3900	TW-SQ-3900	
R36	100K 1W			
R37	10K			
R38	3.3meg			
R39	470K			
R40	470K			
R41	100K			
R42	15K			
R43	470K			
R44	3.3meg			
R45	47K			
R46	1.5meg			
R47	1.5meg			
R48	8.2meg			
R49	270K			
R50	3300Ω			
R51	15K			
R52	1000Ω			
R53	100K			
R54	3300Ω			
R55	15K			
R56	33K			
R57	39K			
R58	12K			
R59	12K			
R60	4.7meg			
R61	220K			
R62	220K			

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	WORKMAN TV PART No.	REMARKS
R63	470Ω			
R64	470K			
R65	560Ω 3W	PW3-560	3W-SQ-560	
R66	6800Ω			
R67	4.7meg			
R68	150K			
R69	100K			
R70	22K			
R71	470K			
R72	33K			
R73	1.5meg			
R74	2.2meg			
R75	1.5meg			
R76	22K			
R77	1meg			
R78	470K			
R79	1.5meg			
R80	22K			
R81	220K			
R82	330Ω 1W			
R83	3300Ω			
R84	22K			
R85	560Ω			
R86	560Ω			
R87	2.3Ω (TC)			
R88	1meg			
R89	1meg			
R90	3300Ω			
R91	470K			
R92	47K			
R93	6800Ω 1W			
R94	100K 5%			
R95	1200Ω			
R96	150K			
R97	33K			
R98	470K			
R99	100Ω			
R100	8200Ω TW	PWT-8200	TW-SQ-8200	Note 2
R101	1.2meg			
R102	470K			
R103	100K			
R104	100K			
R105	10K			
R106	1000Ω			
R107	4700Ω			
R108	1.2Ω 5%			
R109	4700Ω TW	PWT-4700	TW-SQ-4700	
R110	470Ω 5W	PW5-470	5W-SQ-470	
R111	10Ω			Note 3
R112	10Ω			Note 3
R113	220K			Note 4
R114	100Ω			

Note 1. 3300Ω 5W when Tuner 10884 is used.
Note 2. Some versions may use 13K, 10W in this application.
Note 3. Not used in Chassis 98D15.
Note 4. Chassis stamped lower than 3547 use 100K in this application.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA: Packard-Bell PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	NOTES
L1	41.25MC Trap	29780	TV-152	6225	RTC-8558	T218	① Includes C17.
L2	39.5MC Trap	29759	TV-152	6225	RTC-8556	T218	③ Wound on 2700Ω Resistor.
L3	47.25MC Trap	29759	TV-153	6225	RTC-8556	T218	④ Wound on 22K
L4	1st Video IF	29755	TV-131	6225	RTC-8556	T218	⑤ Wound on 3900Ω Resistor.
L5	2nd Video IF	29585	TV-130	6224	RTC-8555	T217	
L6	47.25MC Trap	29564A ①	TV-153	6225	RTC-8556	T218	
L7	3rd Video IF	29585	TV-130	6224	RTC-8555	T217	
L8	4th Video IF	29585	TV-130	6224	RTC-8555	T217	
L9	RF Choke (10uh)	29566	BC-566	4612	RTC-8522	T860	
L10	Peaking (250uh)	29781 ②	TV-185 ▲	6181 ▲	RTC-8596 ▲	T315 ▲	▲ Shunt with 2700Ω Resistor.
L11	Peaking (130uh)	29606 ④	TV-182	6178	RTC-8594	T304	
L12	Peaking (93uh)	29552 ④	TV-181 †	6177 †	RTC-8594 †	T304 †	† Shunt with 3900Ω Resistor.
L13	4.5MC Trap	29648	TV-151	1470	RTC-8603	T280	
L14	Peaking (350uh)	29781 ②	TV-185 ▲	6181 ▲	RTC-8596 ▲	T315 ▲	
L15	Peaking (180uh)	29606 ④	TV-183	6179	RTC-8596	T309	
L16	♦F Choke (10uh)	29566	BC-566	4612	RTC-8522	T860	
L17	RF Choke (12uh)	29564A	BC-566	4612	RTC-8522	T860	
L18	Sound IF	29778 ⑤	TV-151	1469	RTC-8603	T349	
L19	Ratio Detector	29694	TV-122-B	1486-RD	RTC-9060	TF280	
L20	RF Choke (10uh)	29564A	BC-566	4612	RTC-8522	T860	
L21	RF Choke (12uh)	29564A	BC-566	4612	RTC-8522	T860	

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: Packard-Bell PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	Workman TV PART No.	NOTES
L.22	Horiz. Stabilizer (Horiz. Hold)	29699A	TV-163	6210	RTC-8622	H8-5	WLC-25	T103	
L.23	Width Coil	29718	MWC-11	6322	WC-11 ①	WC-28 ①	WLC-6	T119	

① Use black and white terminals.

FILTER CHOKE

ITEM No.	RATINGS: CURRENT (Measured)	DC RES.	INDUCTANCE @ CURRENT 1000 ^/\)	REPLACEMENT DATA: Packard-Bell PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
L24	.340A	40Ω	.7 Hy.	37006# ①	C-4084 ②	C-2343	28C44 ②	C-34X	①Alternate Part #27006. ②Drill new mounting hole(s).

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	SEC. 1	SEC. 2	REPLACEMENT DATA: Packard-Bell PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	117V ③ 1.5A	500VCT @ 130A DC	3V ③ 3A	89101					
	SEC. 3	SEC. 4	SEC. 5						
	6.3V ③ 9.2A								

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: Packard-Bell PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T3	Vert. Output	89543	A-2988 *		26B07 *	A-140X *	
T3	Alt. Vert. Output	89543B					
T3	Yoke Horiz. 18.2MH (114°) Vert. 15MH	29758	MDF-118 *	DY-27A *	Y-52 *	Y-60-1 *	
	Alt. Yoke	29758A					
	Yoke	29716 ①		DY-24A	Y-50	Y-49	①Used in 27" Models (Ch. 98D14C).
	Rear Cover	34103					
	Rear Cover	34106 ①					
T4	Horiz. Output	89544					
	Horiz. Output	89550 ①					

*COMPONENT CONNECTION DATA

ORIGINAL → / REPLACEMENT	HV TRANSFORMER: Original Connections 1 2 3 4 5 6	VERTICAL OUTPUT: Original Connections		YOKE: Original Connections 1 2 3 4 5 6 7 8	YOKE PLUG: 1 2 3 4 5 6 7 8
MERIT		Blue	Red-Yellow	Green	TO YOKE TERMINAL
STANCOR		Green	Yellow	Red	1 2 3 4 5 6 10 8
THORDARSON		Green	Yellow	Red	1 2 3 4 5 6 7 8
TRIAD		Green	Yellow	Red	1 2 3 4 5 6 7 8

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE: PRI.	SEC.	REPLACEMENT DATA: Packard-Bell PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T5	6400Ω	3-4Ω	89545 ①	A-2930	A-3877	34B51	S-49X	①Alternate Part #89545A.

SPEAKER

ITEM No.	TYPE: SIZE	FIELD	V. C. IMP.	REPLACEMENT DATA: Packard-Bell PART No.	QUAM PART No.	NOTES
SP1	4"	PM	3-4Ω	83014E ①	4A07	①Used in Models 23DC10, 23DT1, 23DD7.
	4"	PM	6-8Ω	83017C ②		②Used in Models 23DC12, 23DD6, 23DD1. (Two used in Model 23DC11).
	6" x 9"	PM	6-8Ω	83113B ③		③Used in Model 23DC13.
	6" x 9"	PM	3-4Ω	83112C ③		④Used in Model RM-500 Remote Control Unit.
	2½"	PM	3-4Ω	83136 ④	25A07	

PACKARD-BELL CHASSIS 98D14, 98D14C, 98D15

FOLDER 1

TV PARTS LIST AND DESCRIPTIONS (Continued)

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		Packard-Bell PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M1		72053 *	6GC1 *		* Horiz. AFC, Dual Selenium, Common Cathode Type

MISCELLANEOUS

ITEM No.	PART NAME	Packard-Bell PART No.	NOTES
M2	Tuner	10708 (10708B)	VHF, Chassis 98D14, 98D14C
	Tuner	10643B	VHF with UHF Provision (Chassis 98D15)
	Tuner	10684	VHF (Chassis 98D15)
	Tuner	10714A	UHF
M3	Circuit Breaker	86718B	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	55178B	Chassis 98D14 and 98D15
Safety Glass	55180	Chassis 98D14C
Mask	55172	Chassis 98D14 and 98D15
Mask	55179	Chassis 98D14C
Knob	52333D	Channel Selector, Chassis 98D14 and 98D14C
Knob	52394	Fine Tuning, Chassis 98D14 and 98D14C
Knob	52390	Volume (Inside Dual), Brightness, Chassis 98D14 and 98D14C
Knob	52391	Tone (Outside Dual), Vertical Hold, Chassis 98D14 and 98D14C
Knob	52179	Tone, Chassis 98D15

WIRING DATA

High Voltage Lead	Use BELDEN No.	8869
Shielded Hook-up Wire	Use BELDEN No.	8885 (Single Conductor) 8738 (Two Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No.	8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord (Interlock Type)	Use BELDEN No.	8874
300Ω Tuner Input Lead	Use BELDEN No.	8225
300Ω Antenna Lead-in	Use BELDEN No.	8230 or 8275
Antenna Rotor Cable	Use BELDEN No.	8464 (Flat) or 8484 (Round) - 4 Conductor 8485 (Round) - 5 Conductor 8488 (Round) - 8 Conductor

VHF TUNER PARTS LIST AND DESCRIPTIONS

10708

TUBES

• GENERAL ELECTRIC • RAYTHEON • SYLVANIA •

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V201	RF Amp.	6GK5	V202	Mixer - Osc.	6CG8A

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201A	27 N750 5%			TCN-27	C10Q27U		CN7-427	10TCU-Q27
B	27 N750 5%			TCN-27	C10Q27U		CN7-427	10TCU-Q27
C202A	27 N750 5%			TCN-27	C10Q27U		CN7-427	10TCU-Q27
B	27 N750 5%			TCN-27	C10Q27U		CN7-427	10TCU-Q27
C203	30							
C204	20 5%			DTZ-20	C10Q2C		CNO-422	10TCC-Q20
C205	.001		EF-001	MFT-1000		CCF-102	CT280A	
C206	1.8-7			829-7				
C207	100		EF-0001	MFT-100				
C208	1.8-7			829-7				
C209	33 5%			TCZ-33	C10Q33C		CNO-433	10TCC-Q33
C210	40							
C211	.15 10%	(.68) †						
C212	.5-3.5							
C213	2 N1500					*		
C214	.001		EF-001	MFT-1000		CCF-102	CT280A	
C215	39 NPO 10%		NPO-DI 39	TCZ-39	C10Q39C	CCTO-390	CNO-390	10TCC-Q33
C216	15 N220 5%					*		10TCR-Q15
C217	2.2 N220 ±.25mmf					*		
C218	.5-3.5							
C219	.001		EF-001	MFT-1000		CCF-102	CT280A	
C220	.001		EF-001	MFT-1000		CCF-102	CT280A	

† Alternate Value

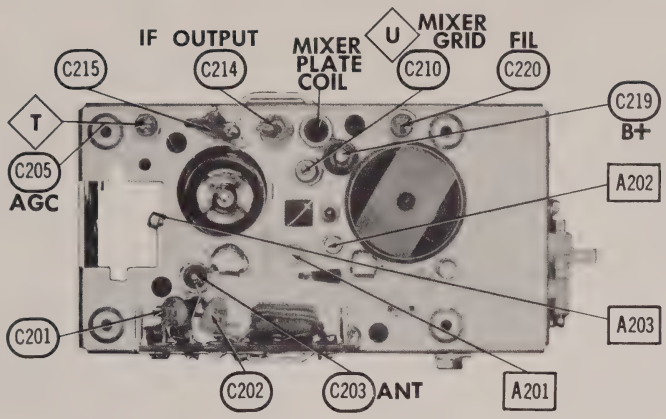
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

RESISTORS

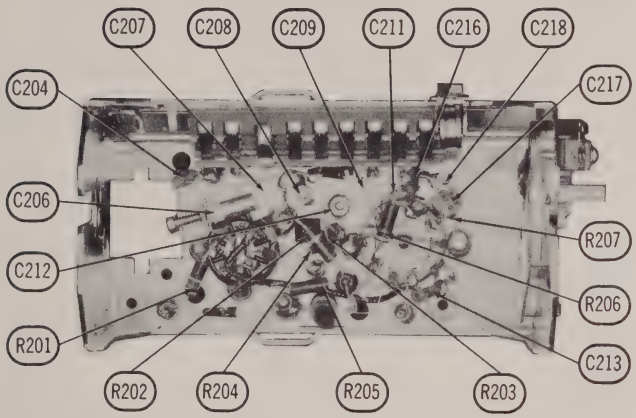
All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R201	47K				R205	1000Ω			
R202	1200Ω				R206	4700Ω			
R203	2200Ω				R207	4700Ω			(10K) *
R204	220K								

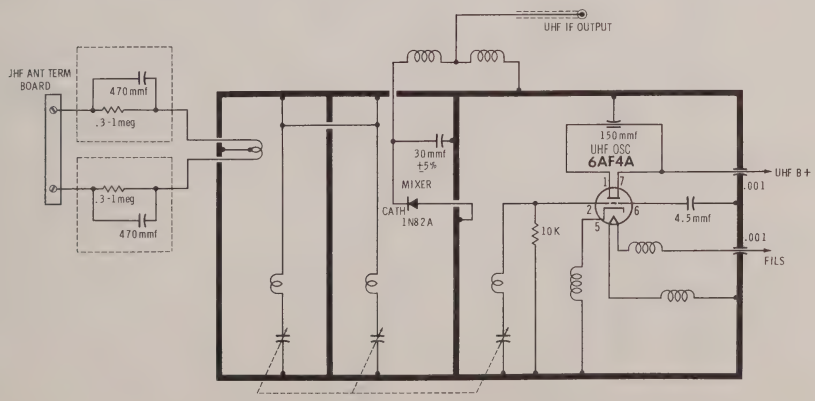
* Alternate



VHF TUNER 10708 - TOP VIEW



VHF TUNER 10708 - BOTTOM VIEW



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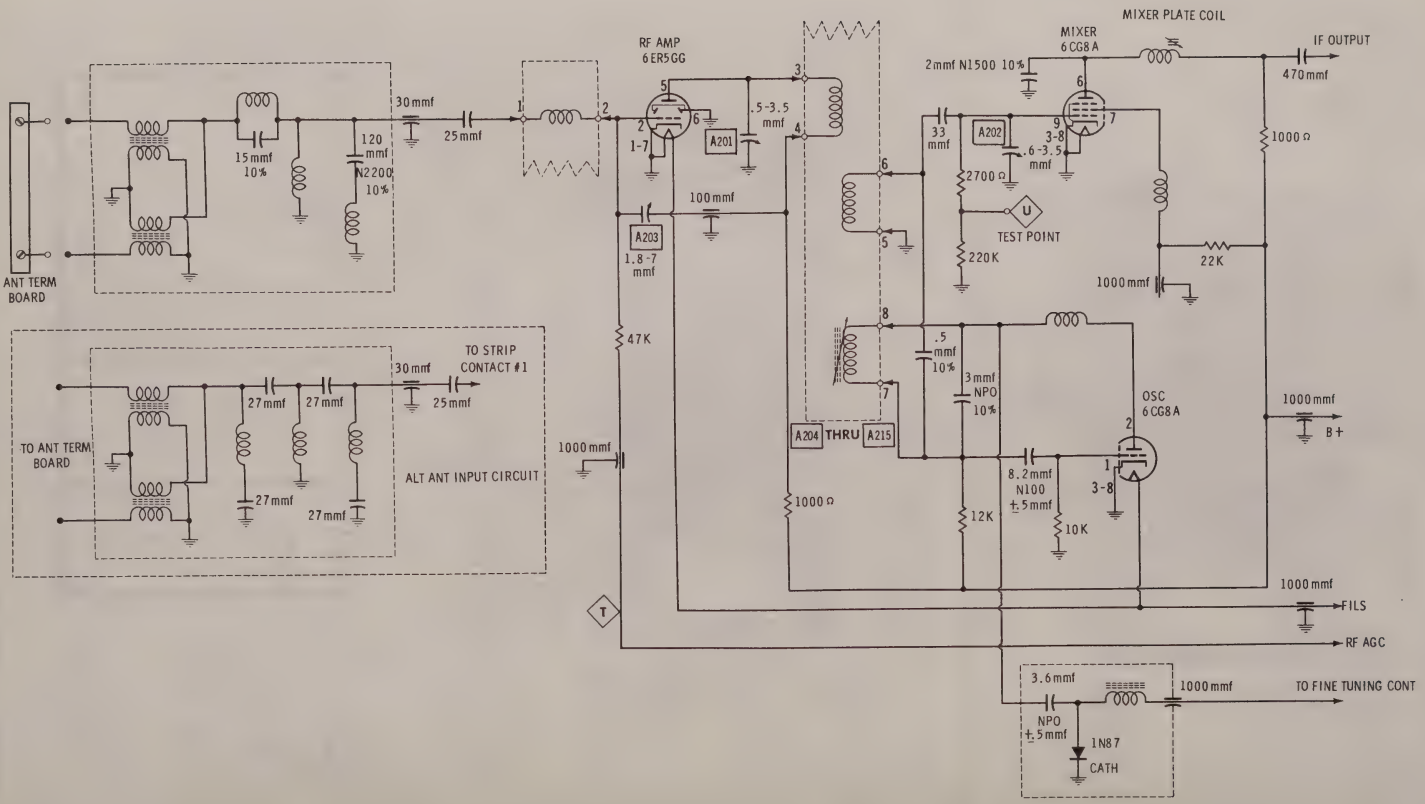
UHF TUNER 10714A



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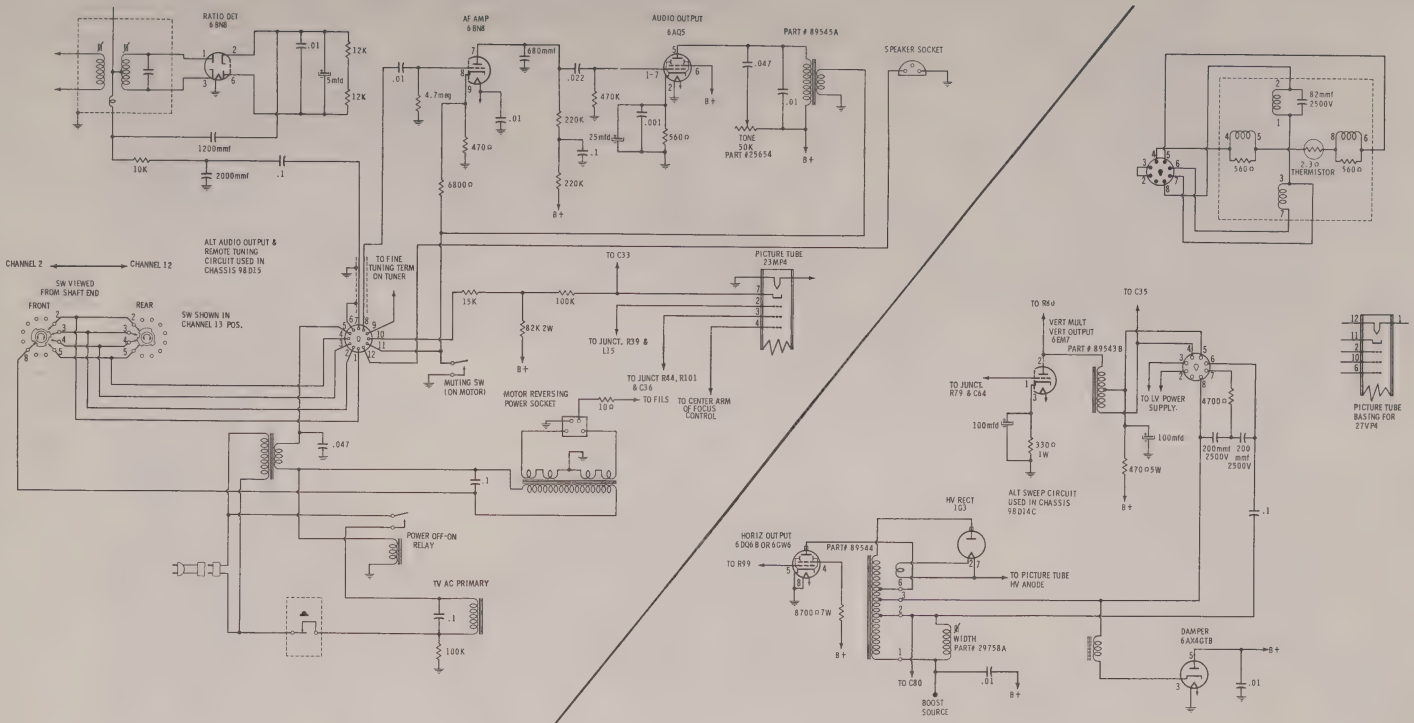
VHF TUNER 10643B



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REMOTE TUNING, AUDIO OUTPUT CIRCUITS USED IN CHASSIS 98D15

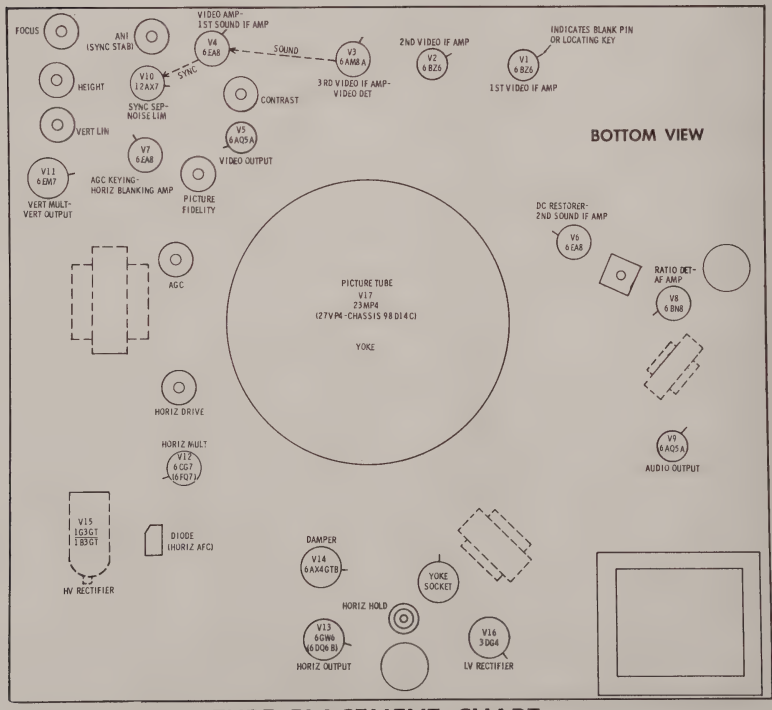
SWEEP CIRCUIT USED IN CHASSIS 98D14C

RESISTANCE MEASUREMENTS

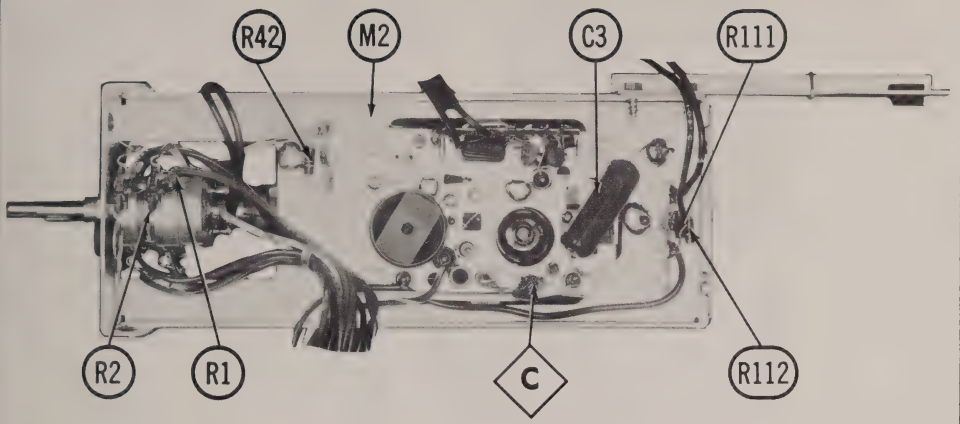
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	● 50K	56Ω	FIL	FIL	▲470Ω	▲470Ω	0Ω		
V2	6BZ6	▲6800Ω	▲56Ω	FIL	FIL	†510Ω	†510Ω	70K		
V3	6AM8A	180Ω	.1Ω	†5700Ω	FIL	FIL	†5700Ω	.1Ω	2800Ω	0Ω
V4	6EA8	†4700Ω	2800Ω	†4700Ω	FIL	FIL	†8600Ω	68Ω	1000Ω	470K
V5	6AQ5A	470K	●800Ω	FIL	FIL	†3900Ω	†4700Ω	NC		
V6	6EA8	†3.3meg	100K	†18K	FIL	FIL	†8000Ω	0Ω	470K	†3.3meg
V7	6EA8	†10K	†70K	†40Ω	FIL	FIL	300K	†4700Ω	1000Ω	100K
V8	6BN8	INF	24K	INF	FIL	FIL	0Ω	†440K	4.7meg	470Ω
V9	6AQ5A	470K	560Ω	FIL	FIL	†370Ω	†40Ω	NC		
V10	12AX7	†23K	4.7meg	0Ω	FIL	FIL	†31K	●120K	1800Ω	FIL
V11	6EM7	● 2.5meg	†755Ω	330Ω	●1.7meg	●†5meg	0Ω	FIL	FIL	
V12	6CG7	†6800Ω	2.5meg	1200Ω	FIL	FIL	†150K	100K	1200Ω	0Ω
V13	6CW6	NC	FIL	NC	†8200Ω	700K	TP	FIL	0Ω	TOP CAP †20Ω
V14	6AX4GTB	NC	TP	¶ 3meg	NC	†40Ω	NC	FIL	FIL	
V15	1G3GT 1B3GT	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP †460Ω
V16	3DG4	¶ 25K	NC	¶ 25K	NC	26Ω	NC	24Ω	NC	
V17	23MP4	FIL	940K	†1.2meg	●†450K	NC	NC	140K	FIL	
V201	6GK5	0Ω	3meg	FIL	FIL	†5100Ω	0Ω	0Ω		
V202	6CG8A	4700Ω	†8600Ω	0Ω	FIL	FIL	†4900Ω	†3900Ω	0Ω	220K
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
● THIS READING WILL VARY, CONTROL SET FOR NORMAL OPERATION.
▲ MEASURED FROM PIN 7 OF V2.
† MEASURED FROM PIN 3 OF V16.
† MEASURED FROM PIN 3 OF V14.

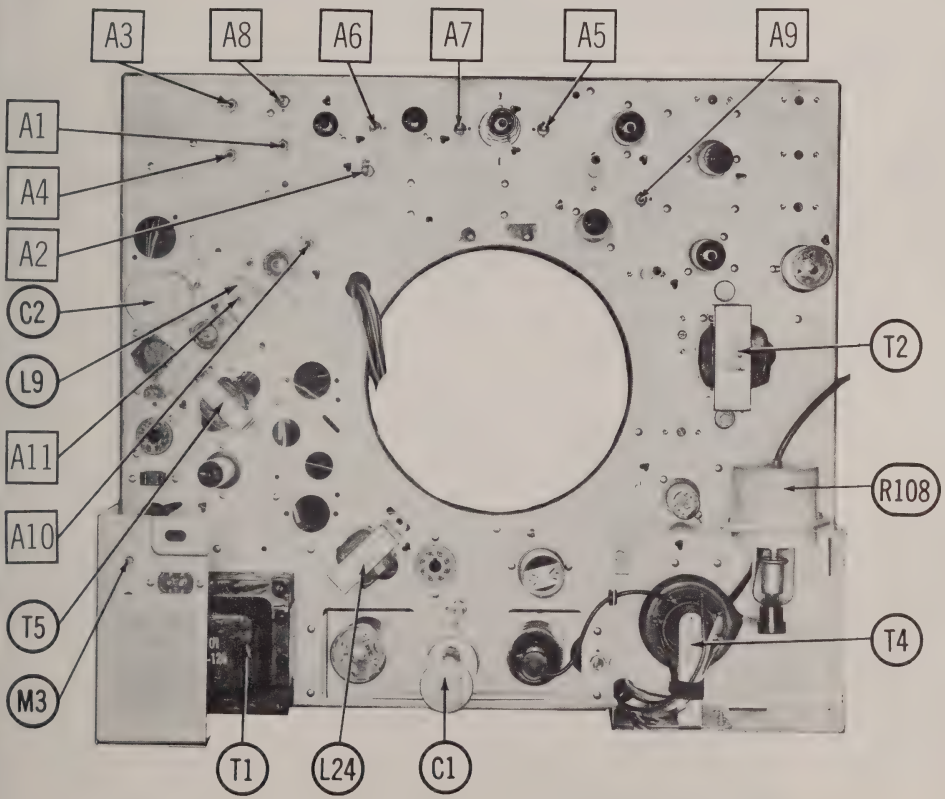
NC NO CONNECTION
TP TIE POINT



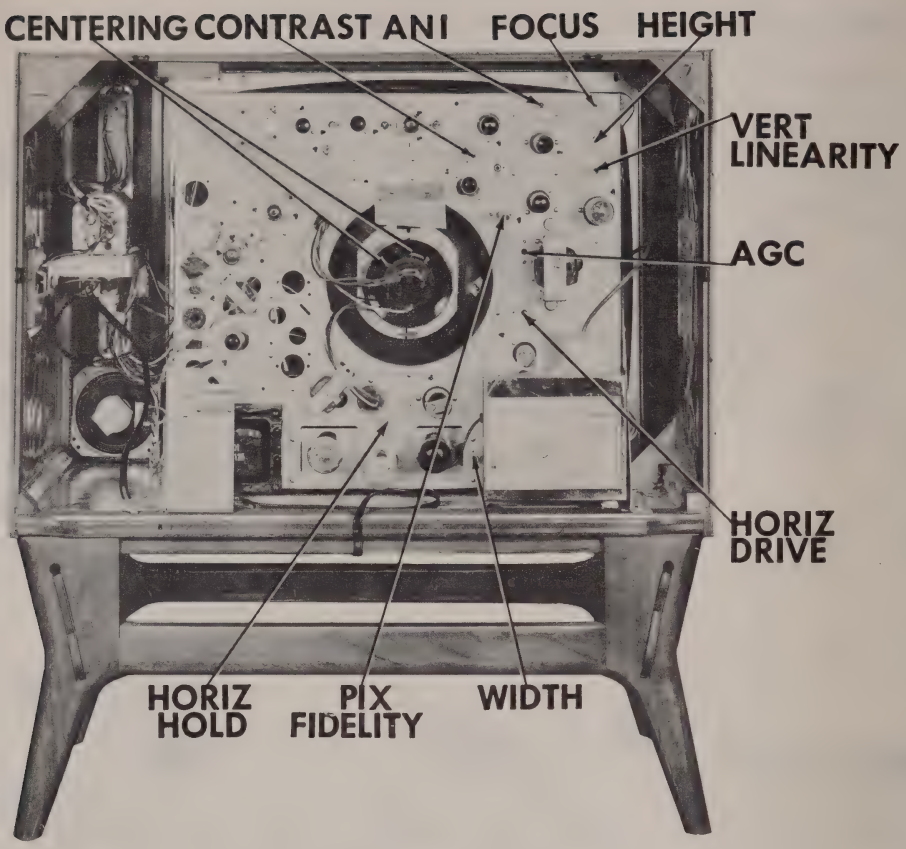
TUBE PLACEMENT CHART



VHF TUNER, CONTROL BRACKET ASSEMBLY



TV CHASSIS - REAR VIEW



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern.

Set the Brightness and Contrast for a normal picture.

Turn the Horizontal Hold (Horizontal Stabilizing Coil Slug) clockwise until the picture loses sync. It may be necessary to switch off channel and back again for picture to lose sync.

Turn the Horizontal Hold slowly counterclockwise until the picture just falls into sync.

Turn to an unused channel. If vertical lines appear near the center of the screen, slowly adjust the Horizontal Drive Control until the white lines disappear.

If the Horizontal Drive was adjusted, tune to a TV station and readjust the Horizontal Hold as above.

Adjust the Width slug (B1) for a picture slightly wider than necessary to fill the picture mask horizontally.

DISASSEMBLY INSTRUCTIONS

SERVICE NOTE: Chassis may be serviced without removing from cabinet by removing rear cover, 1 screw at rear (bottom right), and by loosening front screw (rear bottom right). Chassis will now swing out for access to components. (It will be necessary to remove yoke plug, high voltage lead, and picture tube socket if chassis must be pivoted to full extent.)

CHASSIS REMOVAL - MODEL 23DC10

1. Remove knobs from front.
2. Remove rear cover (held by 4 spring clips and 1 lock-type clip).
3. Remove 3 nuts holding tuner and dial light assembly.
4. Remove 2 screws (top left) and 2 screws (bottom right) holding chassis.
5. Unplug yoke, picture tube socket, and high voltage lead.
6. Disconnect speaker leads and lift chassis up and off of pivot pin at bottom left.
7. Remove chassis.

PICTURE TUBE REMOVAL

Follow "Disassembly" instructions for access to picture tube.

PHOTOFACT® Folder with CIRCUITRACE®

SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

IMPORTANT FILING NOTICE

The TV Folder for this envelope will be found among the first folders in this complete Set of folders.

Merely insert the corresponding folder on this model in this envelope to retain proper filing and indexing order.

SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

MODEL 21061 (CH. 528.52422)

SET 571 FOLDER 2

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SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

CAUTION

ONE SIDE OF AC LINE CONNECTED TO CHASSIS.

MODEL 21061 (CH. 528.52422)

TRADE NAME	SILVERTONE MODELS	CHASSIS	VHF Tuner	UHF Tuner	UHF Position Sw. Ass'y
	PC-21061 ...	456.52420, 456.52422, 456.52260 ...	95-254-0		69-393-0
	PC-21071 ...	456.52421, 456.52423, 456.52261	95-254-0 ...	95-262-0 ...	69-393-0
	21061	528.52420, 528.52422, 528.52260 ...	95-254-0		
	21071	528.52421, 528.52423, 528.52261	95-254-0 ...	95-262-0 ...	69-393-0

SUPPLIER	Sears, Roebuck & Co., 925 S. Homan Ave., Chicago, Illinois
TYPE SET	Television Receiver
TUBES	VHF - Fifteen, UHF - Sixteen
POWER SUPPLY	110-120 Volts AC, 60 Cycle RATING VHF - 155 Watts, 1.5 Amp. @ 117 Volts AC
TUNING RANGE	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

SERVICING IN THE FIELD

SAFETY GLASS REMOVAL

Press down spring clip located at bottom center of mask. Lift mask and safety glass assembly out and up from cabinet.

FUSE DEVICE

A Circuit Breaker is used for low voltage power supply protection, and may be reset by depressing the reset button. (For location, see "Tube Placement Chart".)

TUNER OSCILLATOR ADJUSTMENT

Remove knobs from front. Remove rear cover of cabinet. Remove 2 screws holding chassis at top and tilt chassis back for access to front of tuner.

AGC

No provision is made to vary the AGC on this receiver.

FOCUS

The focus may be varied by means of a Focus Control. (See "Tube Placement Chart" for location.)

SYNC STABILITY

Sync stability may be varied by means of a Noise Gate Control. (For location, see "Tube Placement Chart".)

HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

The Horizontal Frequency Slug is used for the Horizontal Hold. (For location, see "Tube Placement Chart".)

WIDTH

The width may be varied by adjusting a metallic sleeve, located between the yoke and the picture tube neck, in or out of the yoke.

HORIZONTAL DRIVE

The horizontal drive may be varied by a Horizontal Drive Control. (For location, see "Tube Placement Chart".)

CENTERING

Centering is accomplished by 2 magnetic rings, located behind the yoke, on the neck of the picture tube.

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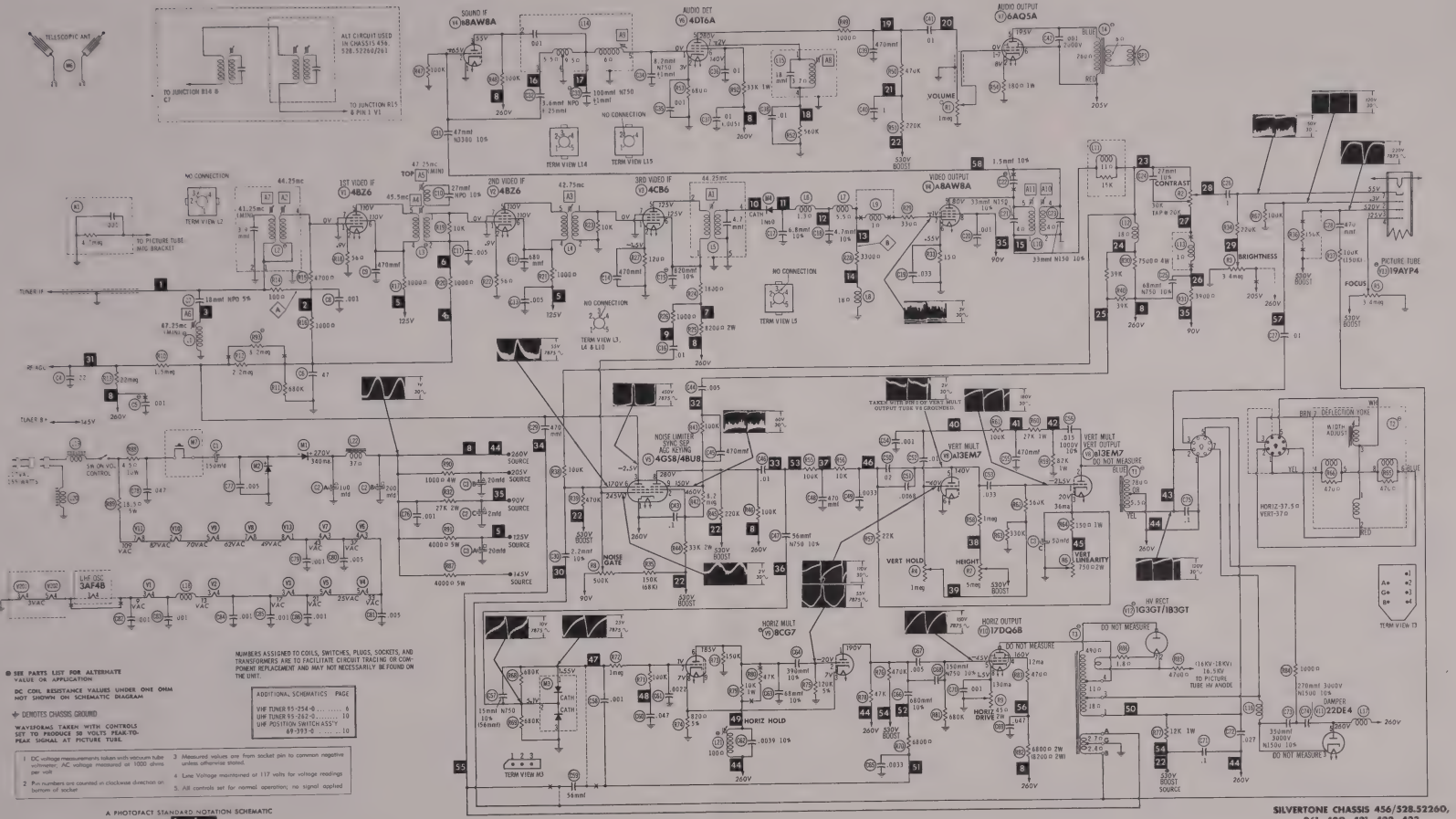
LA334

SET 571 FOLDER 2



● SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

⏚ DENOTES CHASSIS GROUND

WAVEFORMS TAKEN WITH CONTROLS SET TO PRODUCE 30 VOLTS PEAK-TO-PEAK SIGNAL AT PICTURE TUBE.

1 DC voltage measurements taken with vacuum tube voltmeter; AC voltage measured at 1000 ohms per volt.

2 Pin numbers are counted in clockwise direction on bottom of socket.

3 Measured values are from socket pin to common negative unless otherwise stated.

4 Line Voltage maintained at 117 volts for voltage readings

5 All controls set for normal operation; no signal applied

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

ADDITIONAL SCHEMATICS PAGE

VHF TUNER 95-254-0 6
UHF TUNER 95-262-0 10
UHF POSITION SWITCH ASS'Y 69-393-0 10

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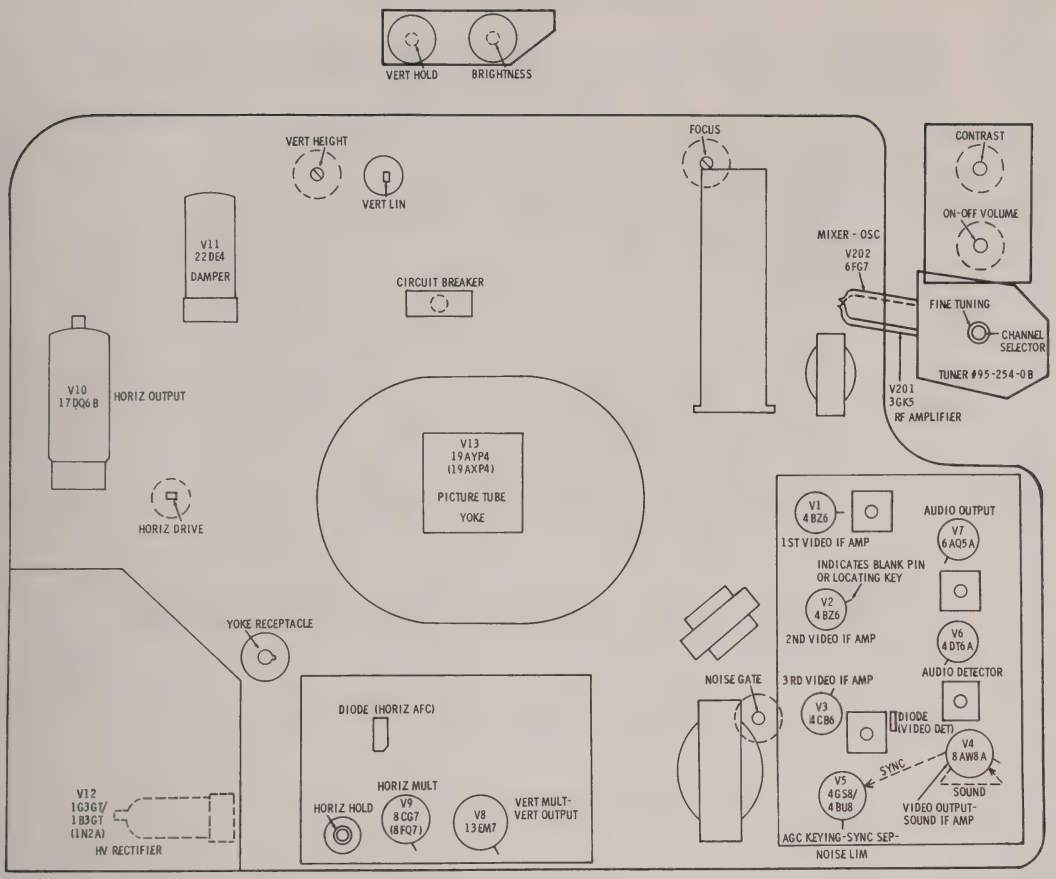
SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce indicated symptoms. Refer to tube placement chart for location and type of tube.

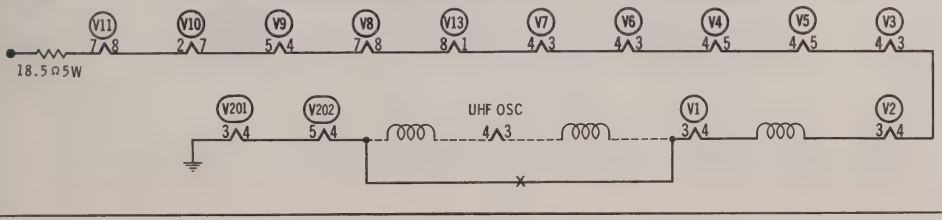
POWER SUPPLY FAILURE
No raster, no sound Circuit Breaker, Rectifiers M1, M2

SWEEP FAILURE
No raster, has sound V9, V10, V11, V12, V13
No vertical deflection V8
Poor vert. linearity or foldover V8
Poor horiz. linearity or foldover V9, V10, V11
Narrow picture V9, V10, V11, M1, M2
Vert. off freq. V8
Horiz. off freq. Diode (Horiz. AFC), V9

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster V1, V2, V3, Diode (Video Det.), V4
No pic, no sound, has snow V201, V202, V1
No pic, has sound, has raster V4, V13
Has pic, no sound V4, V6, V7
Overloaded picture V5

SYNC FAILURE
No vert. sync V5
No horiz. sync V5
No vert. or horiz. sync V5

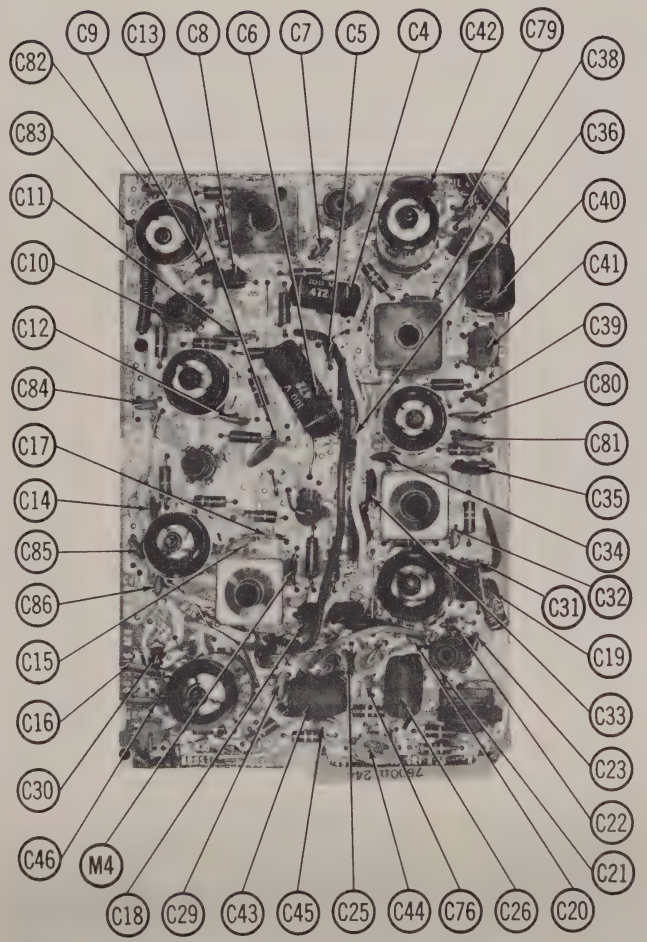
This receiver employs tubes used in a series filament network, an open filament in any tube will cause the set to be inoperative. (See circuit below.)



SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

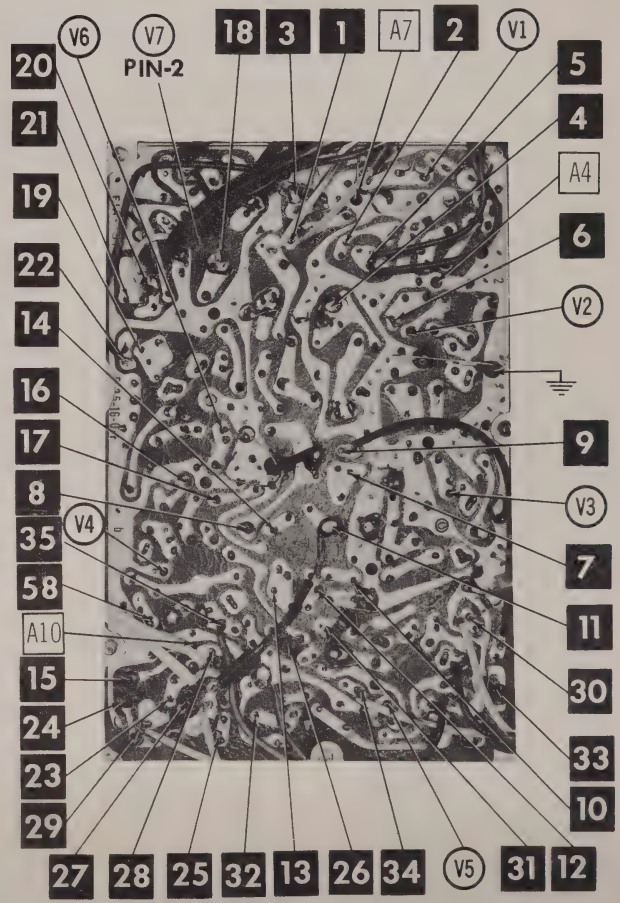
FOLDER 2

SEE PAGE 14 FOR RESISTOR, INDUCTOR IDENT.



A Howard W. Sams CIRCUITRACE* Photo

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED



(CAPACITOR, MISC. IDENT.)

VIDEO, SOUND, SYNC PRINTED BOARD

ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

Use and ISOLATION TRANSFORMER TO PROTECT the Test Equipment.
The High Voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: GENERAL CEMENT #8282, 8606, 8606L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545

VIDEO IF ALIGNMENT

Short the antenna terminals together, but not to chassis.
Connect the negative lead of a 3 volt bias supply to point (A). Positive to chassis.
Detune A1, A4, A5, A6, A7 and Mixer Plate Coil by turning the cores almost out of the coil forms.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	Place a thin insulated metal strip between the Mixer-Osc. tube (V202) and tube shield. Connect the high side of sweep generator to the metal strip. Low side to chassis.	44.25MC (Unmod.)	Any non-interfering channel	DC probe thru 10K to point (B). Common to chassis. (Across Video Detector load.)	A1, A2, & Mixer Plate Coil	Attenuate generator output to maintain not more than 2 volts on VTVM. Adjust for maximum deflection.
2.	"	"	42.75MC	"	"	A3	"
3.	"	"	45.5 MC	"	"	A4	"
4.	"	"	47.25MC	"	"	A5, A6	Increase generator output. Adjust for MINIMUM deflection. Repeat steps 3 and 4.
5.	"	"	41.25MC	"	"	A7	Adjust for MINIMUM deflection.

OVERALL VIDEO IF RESPONSE CHECK

Short the antenna terminals together, but not to chassis.
Attenuate sweep generator output to maintain not more than 2 volts peak to peak on scope.
If separate marker generator is used, couple loosely to output cable of sweep generator.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
6.	Direct	Place a thin insulated metal strip between the Mixer-Osc. tube (V202) and tube shield. Connect the high side of sweep generator to the metal strip. Low side to chassis.	44.25MC (10MC Swp.)	41.25MC 42.55MC 43.8MC 44.15MC 45.0MC 45.75MC 47.25MC	Any non-interfering channel	Vert. Amp. thru 10K to point (B). Low side to chassis.		Check for response similar to Fig. 1. If necessary, retouch Mixer Plate Coil to place 45.75MC marker at 50%. Retouch A1 for proper tilt.

SOUND IF ALIGNMENT

Connect the negative lead of a 5 volt bias supply to point (A). Positive to chassis.
Set Contrast control fully clockwise.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
7.	.05mfd	High side to point (B). Low side to chassis. (.1 volt output.)	4.5MC (400∿ FM 15KC Swp.)	Any non-interfering channel	AC probe to high side of Volume control. Common to chassis.	A8, A9	Adjust for maximum deflection. If two peaks are found, use the greater peak.
8.	"	High side to point (B). Low side to chassis. (500 microvolts.)	"	"	"	A10	Adjust for maximum deflection. Retouch A9 for maximum deflection.

4.5MC TRAP ALIGNMENT

Tune in a TV signal and adjust the Fine Tuning until a 4.5MC beat interference is noted in the picture. Adjust A11 until the horizontal scanning lines are smooth and continuous.

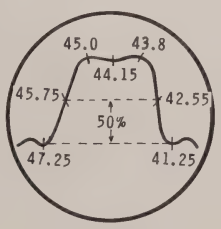
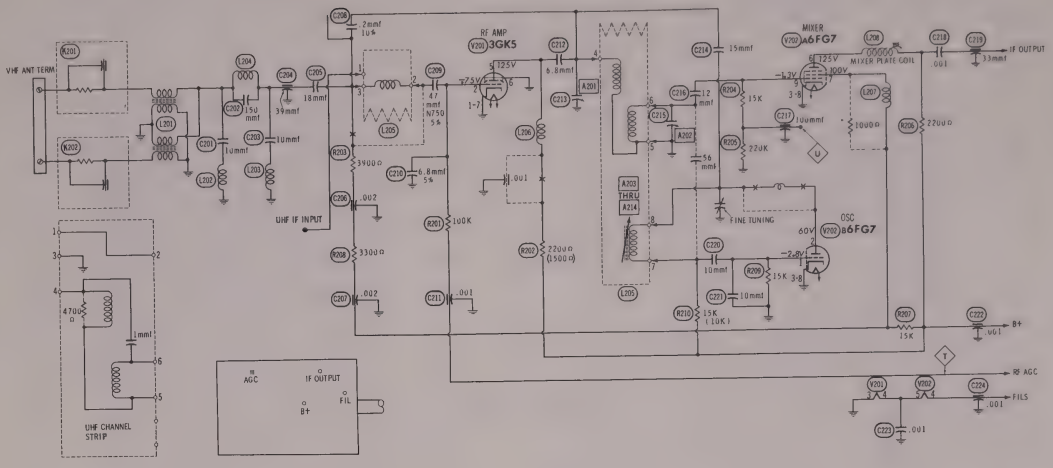


FIG. 1



A PHOTOFACT STANDARD NOTATION SCHEMATIC
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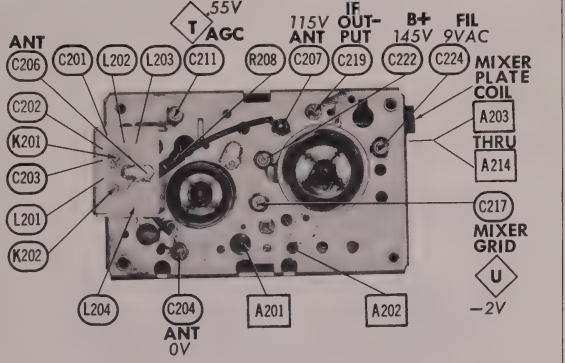
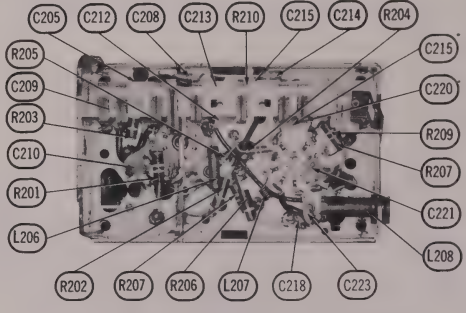
VHF TUNER 95-254-0



TOP VIEW



BOTTOM VIEW

VHF TUNER PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	GENERAL ELECTRIC USE	GENERAL ELECTRIC TYPE	RAYTHEON USE	RAYTHEON TYPE	SYLVANIA USE	SYLVANIA TYPE
V201	RF Amp.	3GK5	Mixer-Osc.	6FG7		

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA: AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C201	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q10
C202	150		DI-150	DD-150	L10T15	CCD-151	GP315	10TS-T15
C203	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q15
C204	39	#275-390						
C205	18		DI-18	DD-180	L10Q18	CCD-180	GP418	10TS-Q18
C206	.002		EF-001	MFT-1000		CCF-102	CT280A	
C207	.002		EF-001	MFT-1000		CCF-102	CT280A	
C208	.2 10%			DTN-447	C10Q47U		CNT-447	10TCU-Q47
C209	47 N750 5%			DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C210	6.8 5%		NPO-DI 6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C211	.001		EF-001	MFT-1000		CCF-102	CT280A	
C212	6.8		NPO-DI 6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C213								
C214	.15							
C215								
C216	12		DI-12	DD-120	L10Q12	CCD-120	GP412	10TS-Q12
C217	100	#272-101	EF-0001	MFT-1000				
C218	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C219	33	#275-330						
C220	10		DI-10	DD-100	L10Q1	CCD-100	GP410	10TS-Q10
C221	10		DI-10	DD-100	L10Q1	CCD-100	HP410	10TS-Q10
C222	.001		EF-001	MFT-102		CCF-102	CT280A	
C223	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C224	.001		EF-001	MFT-102		CCF-102	CT280A	

\# Silvertone Part Number

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	WORKMAN TV PART No.	REMARKS
R201	100K			
R202	2200Ω			(1500Ω) *
R203	3900Ω			
R204	15K			
R205	220K			
R206	2200Ω			
R207	15K			
R208	3300Ω			
R209	15K			
R210	15K			(10K) *

* Alternate Value

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	SILVERTONE PART No.	REPLACEMENT DATA
K301	Antenna Filter	Note 1		Note 1. Some versions may use Pt. 8330-1
K302	Antenna Filter	Note 1		

COILS (RF-IF)

ITEM No.	USE	SILVERTONE PART No.	NOTES
L301	Ant. Trans.	3613-1	
L302	RF Choke	3534-2	
L303	RF Choke	3534-1	
L304	RF Choke	1786-69	
L305A	Ant., RF, Mixer, & Osc.	3263-509	Channel 2
B	"	3263-509	Channel 3
C	"	3264-509	Channel 4
D	"	3265-509	Channel 5
E	"	3266-509	Channel 6
F	"	3267-509	Channel 7
L305G	Ant., RF, Mixer, & Osc.	3268-509	Channel 8
H	"	3269-509	Channel 9
J	"	3270-509	Channel 10
K	"	3271-509	Channel 11
L	"	3272-509	Channel 12
M	"	3273-509	Channel 13
L306	RF Choke	1811-14	
L307	RF Choke	300-8	
L308	Mixer Plate	3583-504	

VHF TUNER ALIGNMENT INSTRUCTIONS

PRE-ALIGNMENT INSTRUCTIONS

USE AN ISOLATION TRANSFORMER TO PROTECT THE TEST EQUIPMENT.
The High Voltage lead should be securely taped and kept away from the chassis.
Allow a 20 minute warm-up period for the receiver and test equipment.
Suggested Alignment Tools: A201, A202 ..... GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537
A203 thru A214 ..... GENERAL CEMENT #5009, 8195, 8274, 8275, 8728, 8729, 8987, 8988, 8989
WALSCO #2515, 2531, 2532

VHF RF AND MIXER ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Use only enough sweep generator output to provide a usable pattern on scope.
Connect the negative lead of a 4.5 volt bias supply to point ⓘ . Positive to chassis.
Use 10MC sweep unless otherwise noted.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Across antenna terminals with 120Ω in each lead.	195MC	193.25MC 197.75MC	10	Vert. Amp. thru 10K to point ⓘ . Low side to chassis.	A201, A202	Adjust A201 and A202 for response similar to Fig. 201 with markers on shoulders of curve.
2.	"	213MC	211.25MC 215.75MC	13	"		Check for response similar to Fig. 201. If markers fall below 70% on any channel, make compromise adjustment of A201 and A202 with channel switch set to that channel. Check all other channels to see that they have not been seriously affected.
		207MC	205.25MC 209.75MC	12			
		201MC	199.25MC 203.75MC	11			
		189MC	187.25MC 191.75MC	9			
		183MC	181.25MC 185.75MC	8			
		177MC	175.25MC 179.75MC	7			
		85MC	83.25MC 87.75MC	6			
		79MC	77.25MC 81.75MC	5			
		69MC	67.25MC 71.75MC	4			
		63MC	61.25MC 65.75MC	3			
		57MC	55.25MC 59.75MC	2			

FIG. 201

VHF OSCILLATOR ALIGNMENT

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the Fine Tuning to the center of its range.
Use only enough sweep generator output to provide a usable pattern on scope.
Connect variable bias to IF AGC line. Adjust bias to obtain response curve which shows no indication of overloading.
Use 10MC sweep unless otherwise noted.

	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3.	Across antenna terminals with 120Ω in each lead.	213MC	211.25MC 215.75MC	13	Vert. Amp. thru 47K across Video Det. load.	A203	Adjust to place sound marker in trap notch as in Fig. 202. Video marker should fall at 50%.
		207MC	205.25MC 209.75MC	12		A204	
		201MC	199.25MC 203.75MC	11		A205	
		195MC	193.25MC 197.75MC	10		A206	
		189MC	187.25MC 191.75MC	9		A207	
		183MC	181.25MC 185.75MC	8		A208	
		177MC	175.25MC 179.75MC	7		A209	
		85MC	83.25MC 87.75MC	6		A210	
		79MC	77.25MC 81.75MC	5		A211	
		69MC	67.25MC 71.75MC	4		A212	
		63MC	61.25MC 65.75MC	3		A213	
		57MC	55.25MC 59.75MC	2		A214	

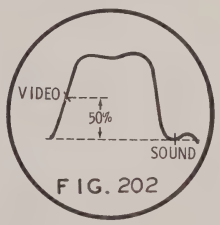


FIG. 202

SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

FOLDER 2

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	GENERAL ELECTRIC • USE	TYPE	ITEM No.	RAYTHEON • USE	TYPE
V1	1st Video IF Amp.	4BZ6	V8	Audio Detector	4DT6A
V2	2nd Video IF Amp.	4BZ6	V7	Audio Output	6AQ5A
V3	3rd Video IF Amp.	4CB6	V9	Vert. Mult. - Vert. Output	12BM7
V4	Video Output - Sound IF Amp.	8AW8A	V10	Horiz. Mult.	8CG7 (8FQ7) *
V5	AGC Keying - Sync Sep. - Noise Limiter	4GS8/4BU8	V11	Horiz. Output	17DQ6B
			V12	Damper	EE91*
			V13	HV Rectifier	1G3GT/1B3GT (1N3A) *

* Alternate

PICTURE TUBE

ITEM No.	REPLACEMENT DATA: SILVERTONE PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	RAYTHEON PART No.	SYLVANIA PART No.	NOTES
V13	19AYP4 19AXP4 *		19AYP4 ③ 19AXP4 ①		19AYP4 ③ 19AXP4 ①	① Aluminized ② Silver Screen "85"

* Alternate

ELECTROLYTIC CAPACITORS

ITEM No.	RATING: CAP	VOLT	REPLACEMENT DATA: SILVERTONE PART No.	AEROVOX PART No.	CORNELL DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	150	150	18-136-5	PRS520	BR15015	QT1-25	TC495	TD-150-150	TVA-1422
C2A	≈100	300	AFH3-26-75	B0286	XC4-37			TMD-2340	TVLS-2593 *
B	≈200	300		BR345				TD-2-450	TVLA-1701
C	≈2	300							
C3A	≈20	300	18-52-3	AFH3-138	B0400	XC2-14	FP366	TMD-2295	TVLS-3751.2 *
B	≈30	300			BR505	MT1-17		TD-50-50	
C	50	50							

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA: AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	.22 100V		P388N-22		CUB2P22	1DP-3-224	GEM-2022	2TM-P22
C5	.005	Note 1	BYD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C6	.47 100V		P283N-47		CUB2P47	1DP-4-474	GEM-2047	2TM-P47
C7	18 NPO 5%			TCZ-18	C10Q18C	CM-19B-180J	CNO-418	10TCC-Q18
C8	.001		BPD-001	DD-101	BYA10D1	CCD-102	B-210	5HK-D10
C9	470		DE-470	DE-471	BYA10T47	CCD-471	B-347	10TS-T47
C10	27 NPO 10%		NPO-DI 25	TCZ-27	C10Q27U	CCTO-270	CNO-427	10TCC-Q27
C11	002		BPD-002	DD-502	BYA10D2	CCD-502	B-250	5HK-D50
C12	680		DE-680	DE-681	BYA10T68	CCD-681	B-368	10TS-T68
C13	.006		BPD-006	DD-602	BYA10D6	CCD-602	B-260	5HK-D50
C14	470		DE-470	DE-471	BYA10T47	CCD-471	B-347	10TS-T47
C15	820 10%	Note 2	DE-820	DE-821	SR5T82	CCD-821	GP382	10TS-T82
C16	.01		BPD-01	DD-103	BYA10D1	CCD-103	B-110	5HK-S10
C17	6.8 10%		NPO-SI 6.8	TCZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C18	4.7 10%		NPO-SI 4.7	TCZ-4R7	C10V47C	CCTO-4R8	CNO-547	10TCC-V47
C19	.033 100V		P383N-033	DD-303	DPM5S333	1DP-1-333	GEM-4133	4TM-S33
C20	001		BPD-001	DD-101	BYA10D1	CCD-103	B-210	5HK-D10
C21	33 N150 10%							10TCP-Q33
C22	1.5 10%	Note 1	NPO-SI 1.5	TCZ-1R5	C10V15C		CNO-515	10TCC-V15
C23	33 N150 10%							10TCP-Q33
C24	27 10%		DE-27	DE-270	L10Q27	CCD-270	GP427	10TS-Q27
C25	68 N750 10%		DT-68	CDQ68C	CCTN-680	CNT-468	GTCU-Q68	10TCU-Q68
C26	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C27	.01		BPD-01	DD-103	BYA10D1	CCD-103	B-110	5HK-S10
C28	470		DE-470	DE-471	BYA10T47	CCD-473	GP347	10TS-T47
C29	470		DE-470	DE-471	BYA10T47	CCD-473	GP347	10TS-T47
C30	2.2 10%		NPO-SI 2.2	TCZ-2R2	C10V22C	CCTO-2R2	CNO-522	10TCC-V22
C31	47 N3300 10%	#30-89-0						
C32	3.3 NPO ±.25mmf		NPO-DI 3.3	DTZ-3R3	C10V33C	CCTO-3R3	CNO-533	10TCC-V39
C33	100 N750 10%	Note 3	N750-DI 100	DTN-100	C10T1U	CCTN-101	CNT-310	10TCU-T10
C34	8.2 N750 ±.5mmf				C10V82C			10TCC-V82
C35	001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C36	01		BPD-01	DD-103	BYA10D1	CCD-103	B-110	5HK-S10
C37	01	(.005) †	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C38	01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C39	470		DE-470	DE-471	BYA10T47	CCD-473	B-347	10TS-T47
C40	1 600V		P388N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C41	01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C42	000 200V		BPD-300-1000	DDM0-102	BYB2D102	2CCD-102	2HY-S10	2GMA-D10
C43	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C44	005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C45	470		DE-470	DE-471	BYA10T47	CCD-471	B-347	10TS-T47
C46	01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C47	56 N750 10%		TCN-56	CDQ56U	CCTN-560	CNT-456	GTCU-Q56	10TCU-Q56
C48	470		DE-470	DE-471	BYA10T47	CCD-471	B-347	10TS-T47
C49	.0033		BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33
C50	.02 400V		P488N-02	DF-203	CUB4S2	4DP-3-203	GEM-412	4TM-S20
C51	.0068		BPD-0068	DD-682	BYA10D68	CCD-682	B-268	5HK-D68
C52	.01 400V		P488N-01	DE-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C53	.033 400V		P488N-033	DD-303	CUB4S33	4DP-3-333	GEM-4133	4TM-S33
C54	001		BPD-001	DD-103	BYA10D1	CCD-103	B-210	5HK-D10
C55	470		DE-470	DE-471	BYA10T47	CCD-471	B-347	10TS-T47
C56	.068 1000V 10%		P1064CM-.015		DPM5S615	1EDP-4-153		1TM-S15
C57	15 N750 10%	(56) †	N750-DI 15	DTN-15	C10Q15U	CCTN-150	CNT-415	10TCU-Q15
C58	001		BPD-001	DD-102	BYA10D1	CCD-102	B-110	5HK-D10
C59	56		DE-56	DE-560	L10Q56	CCD-560	GP256	10TS-Q56
C60	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C61	.0022		BPD-0022	DD-222	BYA10D22	CCD-222	B-222	5HK-D22
C62	.0039 10%		1495-0039		1ESD39	CM-20B-392K	MC2452.5	M5-339
C63	68 10%		DI-68	DD-680	L10Q68	CCD-681	GP468	10TS-Q68
C64	390 10%		1495-0039		SR5T39	CM-19B-331K	MCB343	M5-339
C65	.0033 10%		BPD-0033	DD-332	BYA10D33	CCD-332	B-233	5HK-D33
C66	680 10%		1495-00068		SR5T68	CM-19B-681K	MCJ349	M5-368
C67	005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C68	150 N750 10%		N750-DI 150	DTN-150	C10T15U	CCTN-151	CNT-315	10TCU-T15
C69	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C70	001		BPD-001	DD-103	BYA10D1	CCD-103	B-210	5HK-D10
C71	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C72	.027 600V		P684CM-027		DPM5S627	6DP-3-273	GEM-613	6PS-S27
C73	350 3000V N1500 10%	#30-216-0						
C74	270 3000V N1500 10%	#30-215-0						
C75	.1 200V		P288N-1	DF-102	CUB2P1	2DP-3-104	GEM-201	2TM-P10
C76	001		BPD-001	DD-103	BYA10D1	CCD-103	B-210	5HK-D10

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA: AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C77	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C78	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C79	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C80	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C81	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C82	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C83	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C84	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C85	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C86	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10

Note 1. Not used in Chassis 456/528.52430, 421.
Note 2. Chassis 456/528.52280, 261 uses 470mmf in this application.
Note 3. Chassis 456/528.52280, 261 uses 150mmf in this application.
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

Silvertone Part Number
† Alternate Value

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA: SILVERTONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch (Off-On)	1meg	24-428 ①	APL-70, AK-33	C478-1meg-2/ R8-3/16	B13-137, 8K8, or PTQ13-137 (8K8)	PP16A, D8-37
R2	Contrast (20K Tap)	30K	24-511			B20-121X, 8K9	UT-415, D8-37
R3	Brightness	3.4meg	24-462	AB-84, AK-33	A47-3meg-8/ R8-3/16	B11-140, 8K9, or (B10L, CF2), S84, DC1) †	U59, D8-37
R4	Vert. Hold	1meg	24-463	AB-69, AK-33	A47-1meg-8/ R8-3/16	B11-137, 8K9, or (B10L, CF1Y, S84, DC1) †	U54, D8-37
R5	Focus	3.4meg	24-491	TT-84, or BX-84	B47-3meg-8	HLC-3	PTA355L, or TA36L
R6	Vert. Linearity	750Ω (2W)	24-520	WN-751	A43-750/ FXS-1/4	W11-105, 8K5 ▲	PTA56R, or U63
R7	Height	5meg	24-437	TT-87, or (AB-87, AK-19)	B47-5meg-8	HLC-5	PTA56R, or U63
R8	Noise Gate (Sync Stab.)	500K	24-521	TT-59	B47-500K-8	B11-133, TM4 ■	PTA55L, or U50
R9	Horiz. Drive	45Ω (2W)	24-486	WN-500	A43-50/FXS-1/4	W11-050, 8K5	H50L

① Chassis 456/528.52280, 61 use Part #24-524.
▲ "SNAPTROL" Equivalent: BU1, WF2, SS3, DC1
■ "SNAPTROL" Equivalent: BU1, CF16, S85

† "SNAPTROL"

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	WORKMAN TV PART No.	REMARKS
R10	1.5meg			
R11	680K			
R12	2.2meg			
R13	22meg			
R14	100Ω			
R15	4700Ω			
R16	1000Ω			
R17	1000Ω			
R18	56Ω			
R19	10K			
R20	1000Ω			
R21	1000Ω			
R22	56Ω			
R23	10K			
R24	1800Ω			
R25	8200Ω 2W			
R26	1000Ω			
R27	120Ω			
R28	3300Ω			
R29	330Ω			
R30	7500Ω 4W	PW4-7500	7W-SQ-7500	#61-231-0
R31	3900Ω			
R32	27K 2W			
R33	15Ω			
R34	220K			
R35	150K			Note 1
R36	150K			
R37	100K			(150K) *
R38	100K			
R39	470K			
R40	39K			
R41	39K			
R42	8.2meg			
R43	100K			
R44	33K 2W			
R45	220K			
R46	100K			
R47	100K			
R48	100K			
R49	1000Ω			
R50	470K			
R51	220K			

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	WORKMAN TV PART No.	REMARKS
R52	560K			
R53	680Ω			
R54	180Ω 1W			
R55	100K			
R56	10K			
R57	22K			
R58	1meg			
R59	82K 1W			
R60	47K 1W			
R61	100K			
R62	560K			
R63	330K			
R64	150Ω 1W			
R65	470Ω			
R66	470Ω			
R67	100K			
R68	680K			
R69	680K			
R70	6800Ω			
R71	100K			
R72	1meg			
R73	150K			
R74	820Ω 5%			
R75	120K 5%			
R76	470K			
R77	12K 1W			
R78	47K			
R79	10K 1W			
R80	47K			
R81	680K			
R82	6800Ω 2W			Note 2
R83	470Ω			
R84	1000Ω			
R85	4700Ω			
R86	1.8Ω			
R87	4000Ω 5W	PW5-4000	5W-SQ-4000	
R88	4.5Ω 10W	FR 4.5	F4.7	
R89	18.5Ω 5W			#61-193-0
R90	1000Ω 4W	PW4-1000	5W-SQ-1000	
R91	4000Ω 5W	PW5-4000	5W-SQ-4000	
R92	33K 1W			
R93	8.2meg			Note 3

Note 1. Chassis 456/528.52280, 261 use 68K in this application.
Note 2. Chassis 456/528.52430, 421 use 8200Ω 2W in this application.
Note 3. Not used in some versions.

Silvertone Part Number
* Alternate Value

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA: SILVERTONE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	NOTES
L1	47.5MC Trap	10-39-0 ①					① Part #10-34-0 used in Chassis 456.52280/61, and 528.52280/61.
L2A	1st Video IF	10-32-3 ②					② Part #10-33-3 used in Chassis 456.52280/61, and 528.52280/61.
B	41.25MC Trap						
L3A	2nd Video IF	10-21-3 ③	"	"			③ Part #10-35-3 used in Chassis 456.52280/61, and 528.52280/61.
B	47.25MC Trap						
L4	3rd Video IF	10-22-3					
L5	4th Video IF	10-28-3					
L6	RF Choke (12uh)	10-85-1	BC-586	4613	RTC-8523	T980	

COILS (RF-IF) (cont)

ITEM No.	USE	REPLACEMENT DATA: SILVERTONE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	NOTES
L7	Peaking (60uh)	10-148-1	TV-193	6110	RTC-8573	T338	
L8	Peaking (269uh)	10-147-1	TV-198	6130	RTC-8576	T347	④ Includes 15K Resistor.
L9	RF Choke (4.7uh)	10-124-1	SW-631	4529	RTC-8505	T977	▲ Shunt with 15K Resistor.
L10A	4.5MC Trap	10-29-3					
B	Sound Takeoff						
L11	Peaking (270uh)	10-150-1 ④	TV-198 ▲	6130 ▲	RTC-8576 ▲	T347 ▲	
L12	Peaking (269uh)	10-147-1	TV-198	6130	RTC-8576	T347	
L13	RF Choke (4.7uh)	10-124-1	SW-631	4529	RTC-8505	T977	
L14	Sound IF	10-31-3					
L15	Quadrature	10-35-3					
L16	RF Choke (4.7uh)	10-124-1	SW-631	4529	RTC-8505	T977	
L17	RF Choke (2uh)	10-172-1	BC-583	4606	RTC-8517	T857	
L18	Fil. Choke (1uh)	10-156-1	BC-584	4602	RTC-8515	T955	
L19	Line Choke (42uh)	10-149-1	TV-180	4628	RTC-8593	T301	
L20	Line Choke (42uh)	10-149-1	TV-180	4628	RTC-8593	T301	

COILS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: SILVERTONE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	Workman TV PART No.	NOTES
L21	Horiz. Stabilizer (Horiz. Hold)	10-34-5 ①					HS-16		

① Horizontal Hold Rod Part #39-293-3.

FILTER CHOKE

ITEM No.	RATINGS: CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ^)	REPLACEMENT DATA: SILVERTONE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
L22	.340A	37Ω	.85Ω	80-15-6			26C92 ①	C-34X ①	① Use original magnet. Glue to choke frame.

Note: Some versions may have magnet glued to choke frame.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: SILVERTONE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	Vert. Output	D80-10-2A			26S23 ① *	A-134X *	① Drill new mounting hole(s).
T2	Alt. Vert. Output (Horiz. .21MH) 114° (Vert. .35MH)	80-10-2	MDF-133	DY-48A * ②④	Y-53 ④ *	Y-92 & NW20 *	②Includes yoke plug. ③Rewire yoke plug. ④Use original damping network if necessary.
	Alt. Yoke	80-30-4 ③					
	Yoke Clamp	22-145-3					
	Yoke Cover	21-404-0					
	Clamp, Centering Dev.	22-145-3					
	Width Device	83-138T					
T3	Horiz. Output	D80-18-3A					
	Alt. Horiz. Output	80-18-3					

*COMPONENT CONNECTION DATA

ORIGINAL → / REPLACEMENT ↓	HV TRANSFORMER: Original Connections 1 2 3 4 5 6	VERTICAL OUTPUT: Original Connections			YOKE: Original Connections 1 2 3 4 5 6 7 8	YOKE PLUG 1 2 3 4 5 6 7 8
		Blue	Oran.	Yel.	1 2 3 4 5 6 7 8	TO YOKE TERMINAL
MERIT						
STANCOR					2 3 7 4 5 6 1 8	1 2 3 4 5 6 7 8
THORDARSON		Blue	Red	Green	1 2 3 4 5 6 7 8	
TRIAD		Blue	Red	Yel.	1 2 3 4 5 6 7 8	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE: PRI.	SEC.	REPLACEMENT DATA: SILVERTONE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T4	6500Ω	3-4Ω	A-80-135-1E ①	A-2930	A-3877	24S09	S-42X	① Alternate Part #60-135-1.

SPEAKER

ITEM No.	TYPE: SIZE	FIELD	V. C. IMP.	REPLACEMENT DATA: SILVERTONE PART No.	QUAM PART No.	NOTES
SP1	3" x 5"	PM	3-4Ω	33-379-4	3SA05	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	SILVERTONE PART No.	REPLACEMENT DATA
K1	Isolation	.001mfd, 4.7meg	13-17-3	Sprague PRC-8

POWER RECTIFIERS

ITEM No.	RATING: CURRENT (Measured)	REPLACEMENT DATA: SILVERTONE PART No.	RCA PART No.	SARKES TARZIAN PART No.	NOTES
M1	.340A	86-1-3	1N1763	40H	
M2	.340A	86-1-3	1N1763	40H	

SILVERTONE CHASSIS 456/528.52260, 261, 420, 421, 422, 423

FOLDER 2

PARTS LIST AND DESCRIPTIONS (Continued)

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		SILVERTONE PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M3	*	86-9-1 *	6GC1 *		* Horizontal AFC, Dual Selenium, Common Cath. Type
M4	1N60 †	86-10-1 †		1N60 †	† Crystal Diode, Video Detector

MISCELLANEOUS

ITEM No.	PART NAME	SILVERTONE PART No.	NOTES
M5	Tuner	95-254-0	VHF, STANDARD COIL REPLACEMENT #GGS-4221A
	Tuner	95-262-0	UHF
M6	Antenna	39-304-3	JFD REPLACEMENT TYPE TA419
M7	Circuit Breaker	43-12-2	
	Magnet	27-70-2	Beam Alignment (May be used in some versions)
	Printed Board	84-12492-1	IF, Sync, & Sound (Includes All Components, Less Tubes)
	Printed Board	25-16-0	IF, Sync, & Sound (Less All Tubes & Components)
	Printed Board	84-12224-1	Horizontal & Vertical Mult. Ass'y (Includes All Components)
	Printed Board	25-20-0	Horizontal & Vertical Mult. Ass'y (Less All Components)

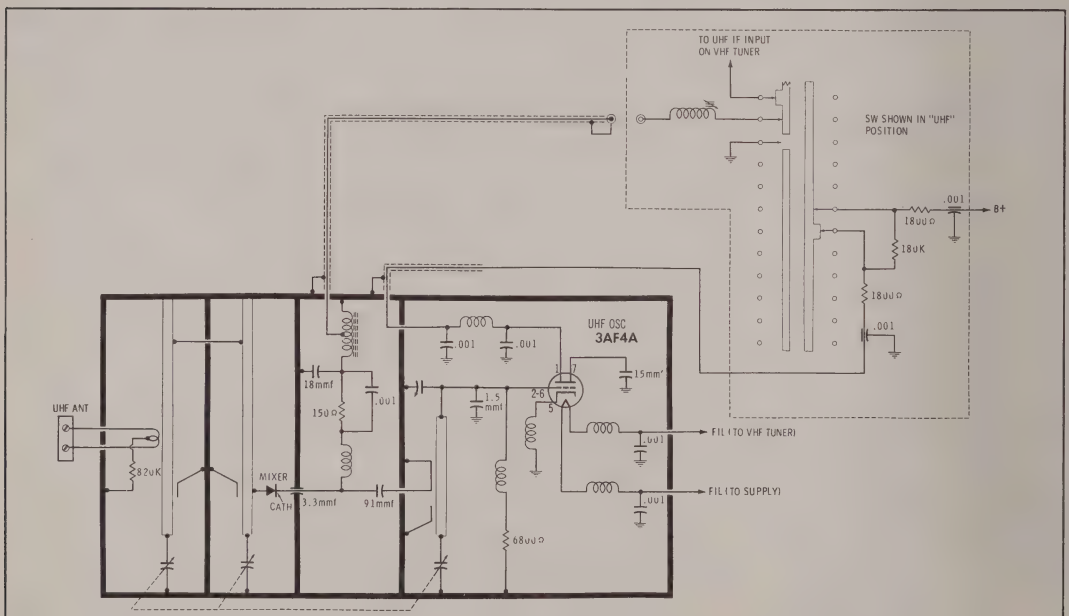
CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Safety Glass	48-170-2	
Mask	40-71-5	Models 21061, 21071, PC21061 and PC21071
Knob	52-1540-0	VHF Channel Selector, Models 21061, 21071, PC21061, PC21071
Knob	52-1539-0	VHF Fine Tuning, Models 21061, 21071, PC21061, PC21071
Knob	52-1412-0	UHF Channel Selector, Models 21071, PC21071
Knob	52-1404-0	UHF Dial Indicator, Models 21071, PC21071
Knob	52-1452-0	Control (4)
Cabinet	42-245-0	Front, Models 21061, 21071, PC21061, PC21071
Cabinet	21-963-0	Back, Models 21061, 21071, PC21061, PC21071
Handle	49-806	Carrying, Models 21061, 21071, PC21061, PC21071
Handle Cover	49-249	Carrying, Models 21061, 21071, PC21061, PC21071
Bead Chain	83-1360	For UHF Tuner

WIRING DATA

High Voltage Lead	Use BELDEN No. 8869
Shielded Hook-up Wire	Use BELDEN No. 8885 (Single Conductor)
	8738 (Two Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors
	8524 (Stranded) Available in Ten Colors
Power Cord (Interlock Type)	Use BELDEN No. 8874
300Ω Tuner Input Lead	Use BELDEN No. 8225
300Ω Antenna Lead-in	Use BELDEN No. 8230 or 8275
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) - 4 Conductor
	8485 (Round) - 5 Conductor
	8488 (Round) - 8 Conductor



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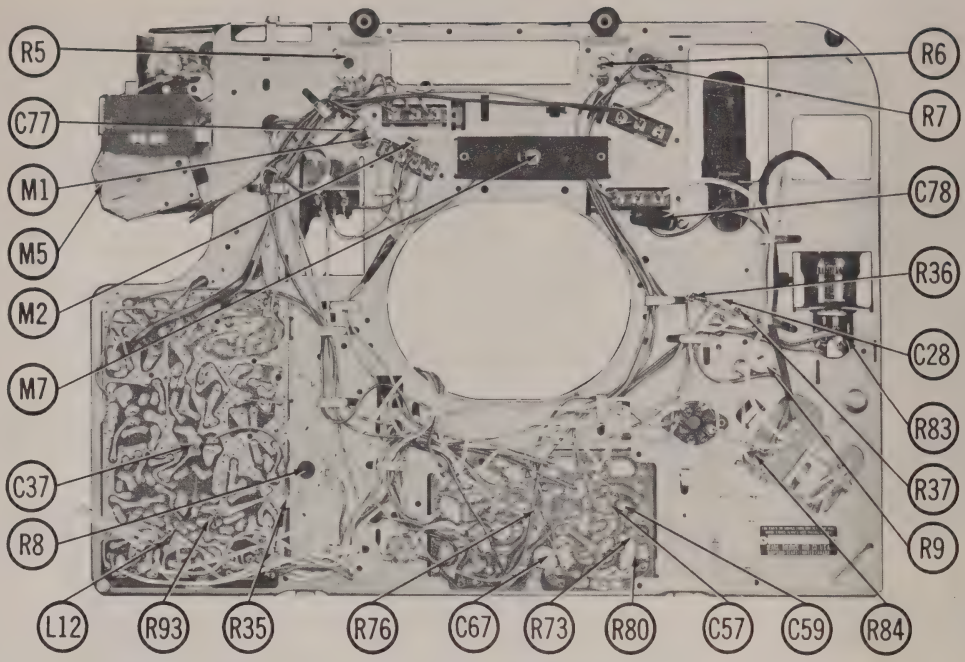
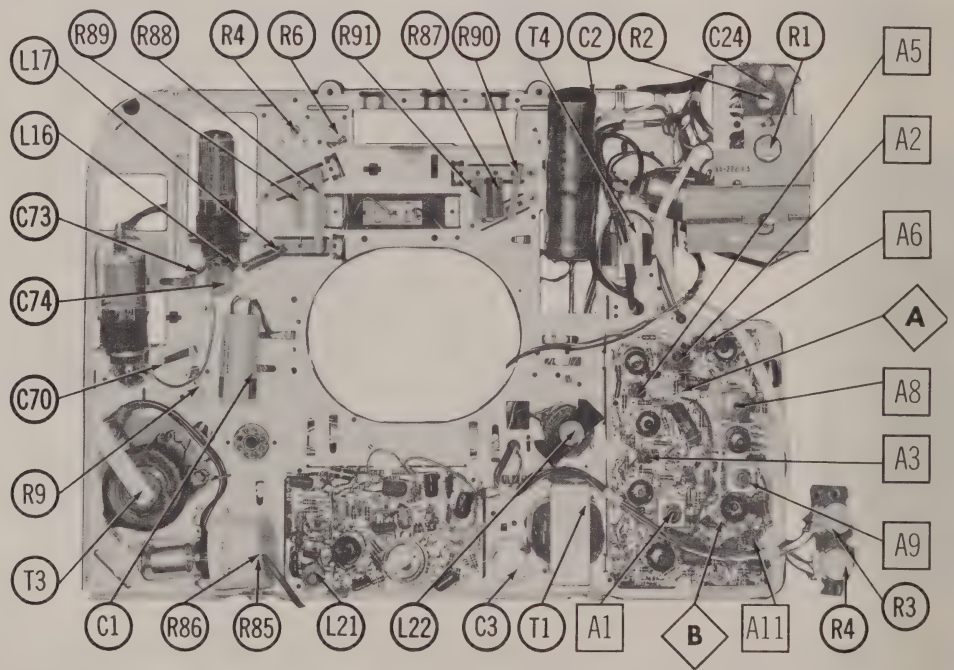
UHF TUNER 95-262-0

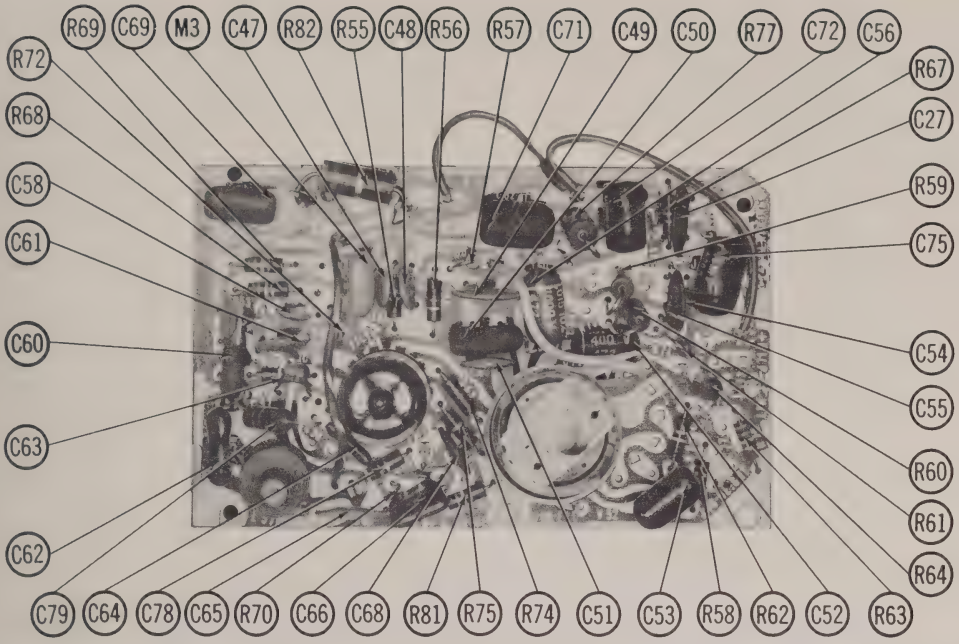
UHF POSITION SWITCH ASSEMBLY 69-393-0

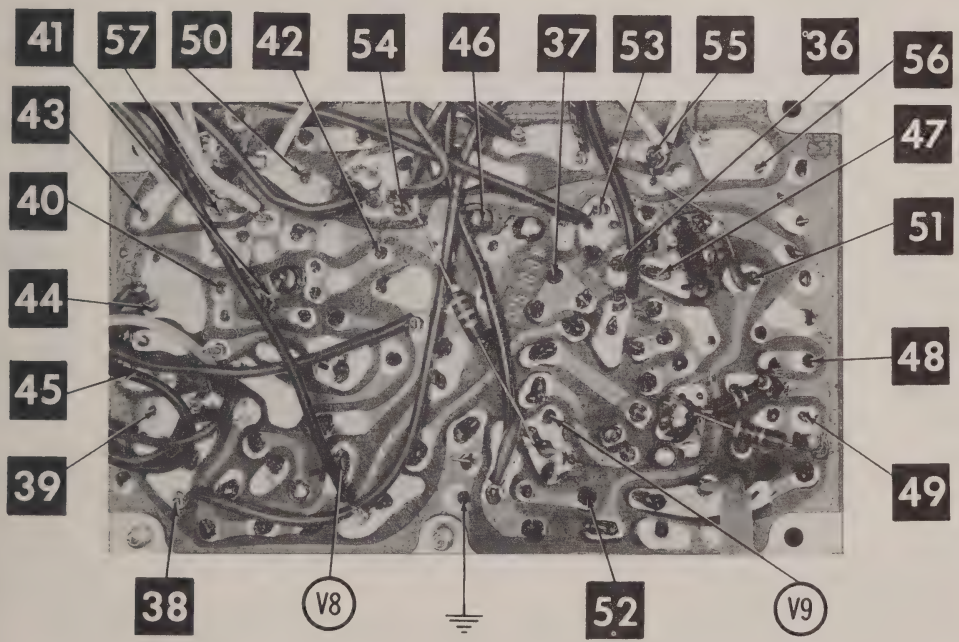


CHASSIS - REAR VIEW



CHASSIS - FRONT VIEW

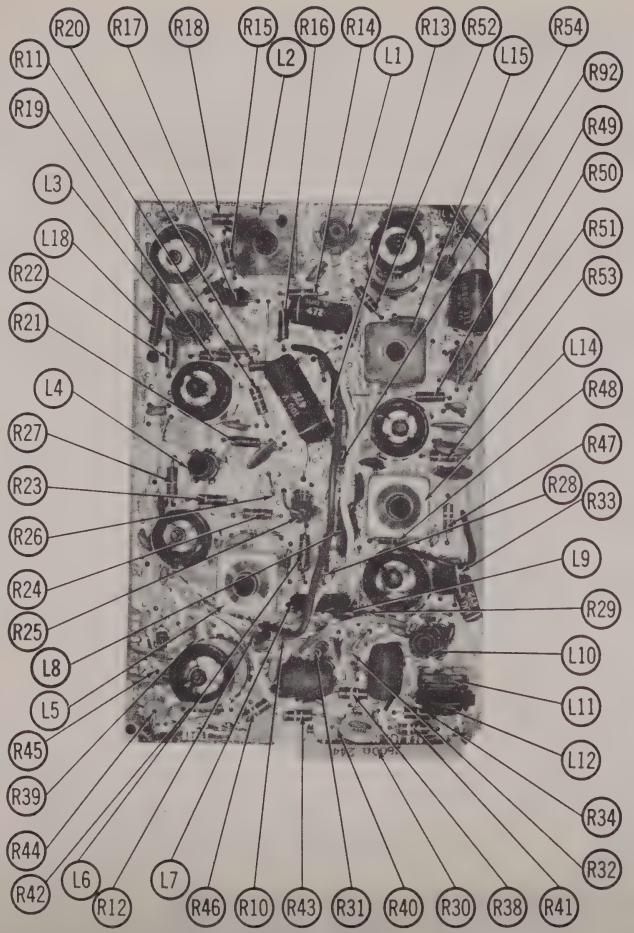




A Howard W. Sams CIRCUITRACE® Photo

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

HORIZ., VERT. MULT PRINTED BOARD



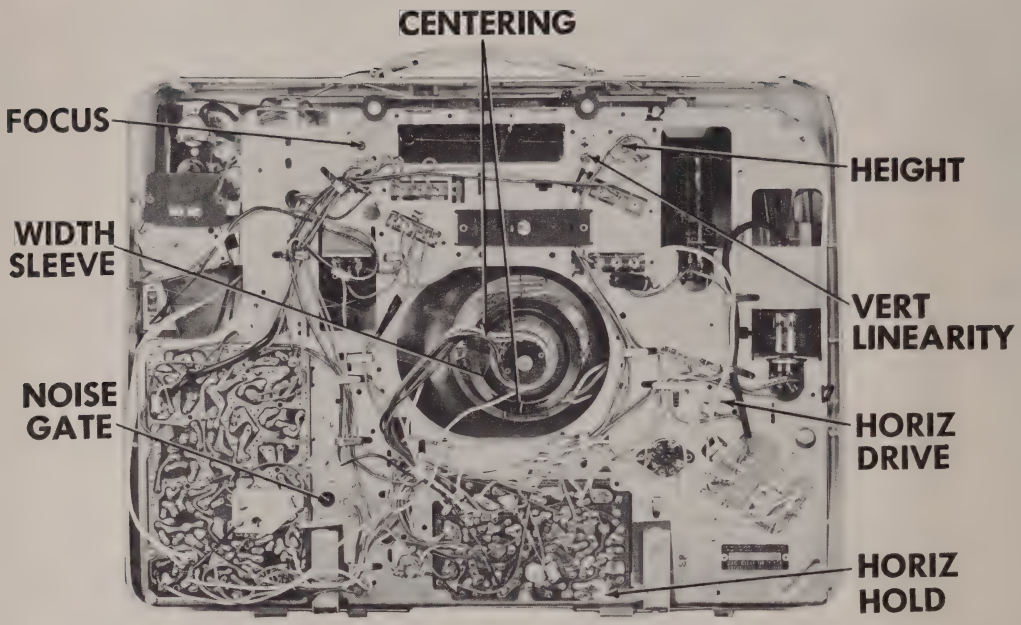
SOUND, VIDEO, SYNC. PRINTED BOARD– RESISTOR, INDUCTOR IDENTIFICATION

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	4BZ6	680K	56Ω	2Ω	3Ω	†5000Ω	†5000Ω	0Ω		
V2	4BZ6	680K	56Ω	3Ω	4Ω	†5000Ω	†5000Ω	0Ω		
V3	4CB6	.2Ω	120Ω	4Ω	5Ω	†10K	†10K	0Ω		
V4	8AW8A	0Ω	100K	†100K	8.5Ω	6.5Ω	15Ω	3600Ω	27K	†6000Ω
V5	4GS8 / 4BU8	†37Ω	†50K	1.8meg	6.5Ω	5Ω	†100K	•†220K	†90K	†8.2meg
V6	4DT6A	15.5Ω	680Ω	8.5Ω	10Ω	†700K	†33K	560K		
V7	6AQ5A	NC	180Ω	10Ω	11.5Ω	†1260Ω	†1000Ω	0Ω		
V8	13EM7	890K	†310Ω	•600Ω	•600K	•†3meg	0Ω	18Ω	13.5Ω	
V9	8CG7	†47K	120K	820Ω	18Ω	20Ω	†8000Ω	2.4meg	820Ω	NC
V10	17DQ6B	TP	23Ω	NC	†7300Ω	680K	TP	20Ω	• 10Ω	TOP CAP †11Ω
V11	22DE4	NC	TP	¶ 100K	TP	†37Ω	TP	27Ω	23Ω	
V12	1G3GT / 1B3GT	PINS 1 THRU 8 HAVE INFINITE RESISTANCE								TOP CAP †500Ω
V13	19AYP4	11.5Ω	100K	†160K	•†850K	0Ω	NC	• 650K	13.5Ω	
V201	3GK5	0Ω	3.8meg	0Ω	.5Ω	†5500Ω	0Ω	0Ω		
V202	6FG7	15K	†14K	0Ω	2Ω	.5Ω	†26K	†19K	0Ω	235K
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
• THIS READING WILL VARY, CONTROL SET FOR NORMAL OPERATION.
† MEASURED FROM OUTPUT OF M1.
† MEASURED FROM PIN 3 OF V11.

NC NO CONNECTION
TP TIE POINT

RESISTANCE MEASUREMENTS



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably with a test pattern.

Set the Brightness and Contrast for a normal picture.

Turn the Horizontal Hold clockwise until the picture loses sync. It may be necessary to switch off channel and back again for picture to lose sync.

Turn the Horizontal Hold slowly counterclockwise until the picture just falls into sync.

DISASSEMBLY INSTRUCTIONS

SERVICE NOTE: Chassis may be serviced by removing 2 screws at top of chassis, knobs from front, and tilting chassis back on hinges.

CHASSIS REMOVAL

1. Remove 4 push-on type knobs, channel selector, and fine tuning knobs from front.
2. Remove 5 screws holding rear cover.
3. Remove 2 screws (top of chassis) and 4 at bottom holding chassis to hinges.
4. Unplug speaker, yoke, high voltage lead, and picture tube socket.
5. Remove 2 screws holding control panel, and 3 holding interlock mounting bracket.
6. Remove chassis.

PICTURE TUBE REMOVAL

Follow "Chassis Removal" procedure for access to picture tube.

PHOTOFACT® Folder with CIRCUITRACE®

**ADMIRAL MODEL
Y2127 (Ch. 8D2)**

ADMIRAL MODEL
Y2127 (Ch. 8D2)

ADMIRAL MODEL
Y2127 (Ch. 8D2)

TRADE NAME	Admiral Model Y2127 (CH. 8D2) RUNS 11 and 12
MANUFACTURER	Admiral Sales Corp., National Service Div., 903 Morrissey Drive, P.O. Box 845, Bloomington, Ill.
TYPE SET	Battery Operated Transistorized Portable AM Receiver
POWER SUPPLY	9 Volts DC RATING 10MA @ 6 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	535 – 1620KC 30MA @ 6 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1, A2, A3, A4..... GENERAL CEMENT #5097, 8727
WALSCO #2515

A5, A6, A7..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

A8..... GENERAL CEMENT #9440

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver	455KC (400% Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum undistorted output.
2.	"	1620KC	"	"	A5	Adjust for maximum output.
3.	"	1400KC	1400KC	"	A6, A7	Adjust for maximum output while rocking tuning gang.
4.	"	600KC	600KC Signal.	"	A8	Adjust for maximum output Repeat step 2, 3 and 4.

SET 571 FOLDER 3

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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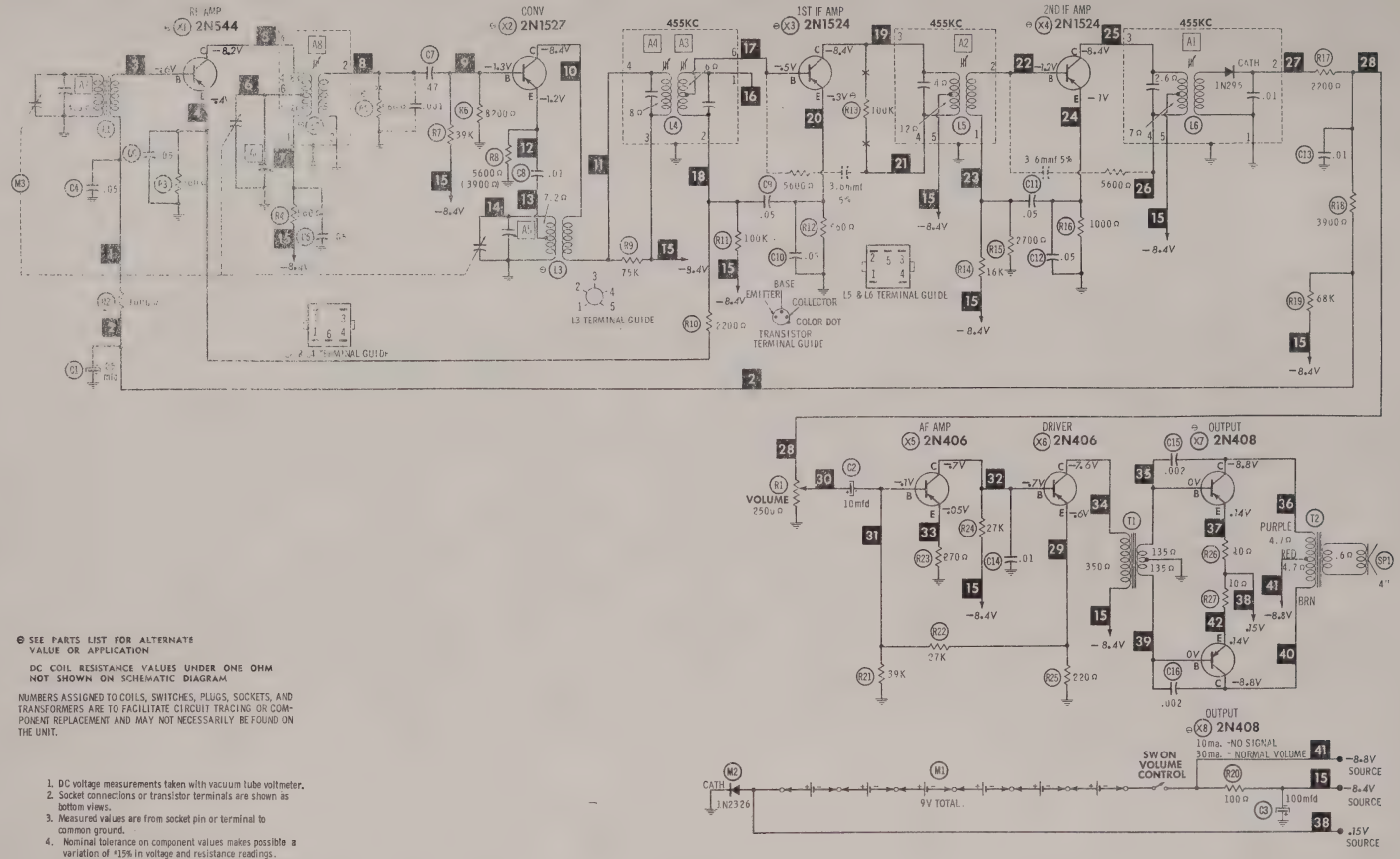

Ⓒ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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ADMIRAL MODEL Y2127 (Ch. 8D2)

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2N544	RF Amplifier	2N544		PNP
	2N1632*	RF Amplifier			PNP
X2	2N1527	Converter	2N1527		PNP
	2N411*				
X3	2N1524	1st IF Amplifier	2N1524		PNP
	2N410*				
X4	2N1524	2nd IF Amplifier	2N1524		PNP
	2N410*				
X5	2N406	AF Amplifier	2N406	2N362	PNP
X6	2N406	Driver	2N406	2N362	PNP
X7	2N408	Output	2N408	2N633	PNP } Matched
X8	2N408	Output	2N408	2N633	PNP } Pair

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	ADMIRAL PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	25	3	67B32-13	BCD3025	ECPB411	MT1-10	PET130	MLV25-3	VL-1041
C2	10	3	67B35-6	PTT6	NLW10-6	MT1-5	TT3X10	MLV10-3	TE-1053
C3	100	12	67B32-6	BCD12100	ECPB417	MT1-19	PET1500	MLV100-12	VL-1140

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	.05 10V		BPD-05	DA-503	H-05S5		TA-150	TG-S50
C5	.05 10V		BPD-05	DA-503	H-05S5		TA-150	TG-S50
C6	.05 10V		BPD-05	DA-503	H-05S5		TA-150	TG-S50
C7	.47 3V			UK10-474				
C8	.01 50V		BPD-01	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C9	.05 10V		BPD-05	DA-503	H-05S5		TA-150	TG-S50
C10	.05 10V		BPD-05	DA-503	H-05S5		TA-150	TG-S50
C11	.05 10V		BPD-05	DA-503	H-05S5		TA-150	TG-S50
C12	.05 10V		BPD-05	DA-503	H-05S5		TA-150	TG-S50
C13	.01 50V		BPD-01	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C14	.01 50V		BPD-01	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C15	.002 100V		BPD-002	DM-202	BYA10D2	CCD-202	GP220	5HK-D20
C16	.002 100V		BPD-002	DM-202	BYA10D2	CCD-202	GP220	5HK-D20

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			ADMIRAL PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	2500Ω	75B36-4				

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA		REMARKS
		IRC PART No.	WORKMAN TV PART No.	
R2	1000Ω			
R3	560Ω			
R4	560Ω			
R5	560Ω			Note 1
R6	8200Ω			
R7	39K			
R8	5600Ω			(3900Ω)*
R9	75K			
R10	2200Ω			
R11	100K			
R12	560Ω			
R13	100K			Note 1
R14	16K			
R15	2700Ω			
R16	1000Ω			
R17	2200Ω			
R18	3900Ω			
R19	68K			
R20	100Ω			
R21	39K			
R22	27K			
R23	270Ω			
R24	27K			
R25	220Ω			
R26	.10Ω			
R27	.10Ω			

* Alternate Value. Note 1. Not used in some versions.

PRINTED BOARD

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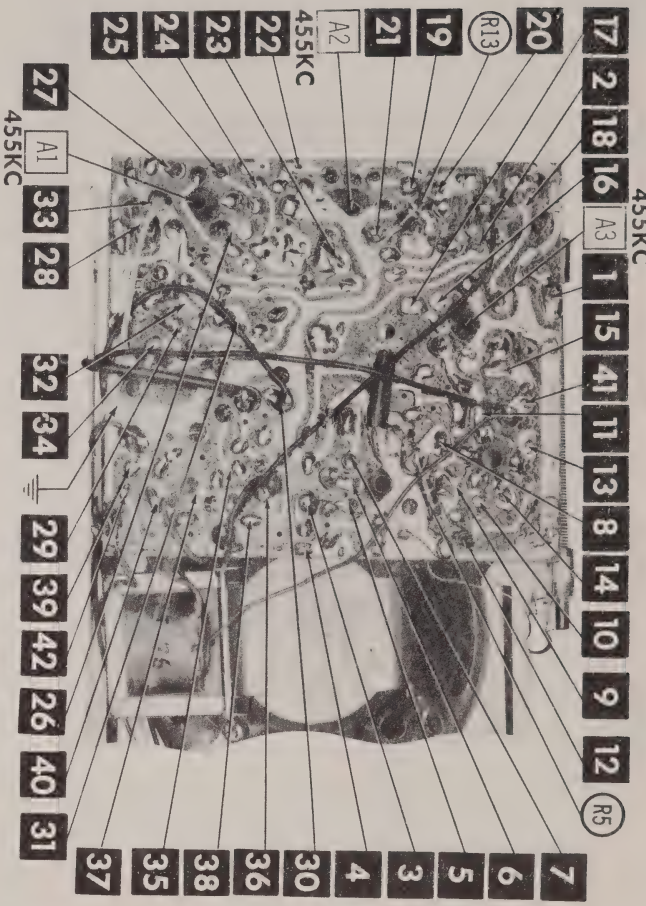


ADMIRAL MODEL Y2127 (Ch. 8D2)

FOLDER 3

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA: ADMIRAL PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	NOTES
L1	Loopstick	69B235-4					① Alternate Part #69C247-2
L2	RF	69B247-2①					② Alternate Part #69B223-5
L3	Osc.	69A223-5②					
L4	1st IF	72C189-3					
L5	2nd IF	72C190-1				T681	
L6	3rd IF	72C190-10					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO PRI.	TURNS RATIO SEC.	REPLACEMENT DATA: ADMIRAL PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	1	1	79B76-3					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA: ADMIRAL PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	120Ω CT	3-4Ω	79D33-32					

SPEAKER

ITEM No.	TYPE SIZE	TYPE FIELD	TYPE V. C. IMP.	REPLACEMENT DATA: ADMIRAL PART No.	QUAM PART No.	NOTES
SP1	4"	PM	3-4Ω	78C156-3	4A1	

BATTERIES

ITEM No.	VOLTAGE	ADMIRAL PART No.	REPLACEMENT DATA: BURGESS "A"	BURGESS "B"	EVEREADY "A"	EVEREADY "B"	MALLORY "A"	MALLORY "B"	NOTES
M1	1½V			130*		635*		M-14R*	* 6 Required

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA: ADMIRAL PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	NOTES
M2	1N2326	57C1-29			Output Bias Regulations

MISCELLANEOUS

ITEM No.	PART NAME	ADMIRAL PART No.	NOTES
M3	Tuning Cap.	68C72-2	3 Gang

CABINETS & CABINET PARTS

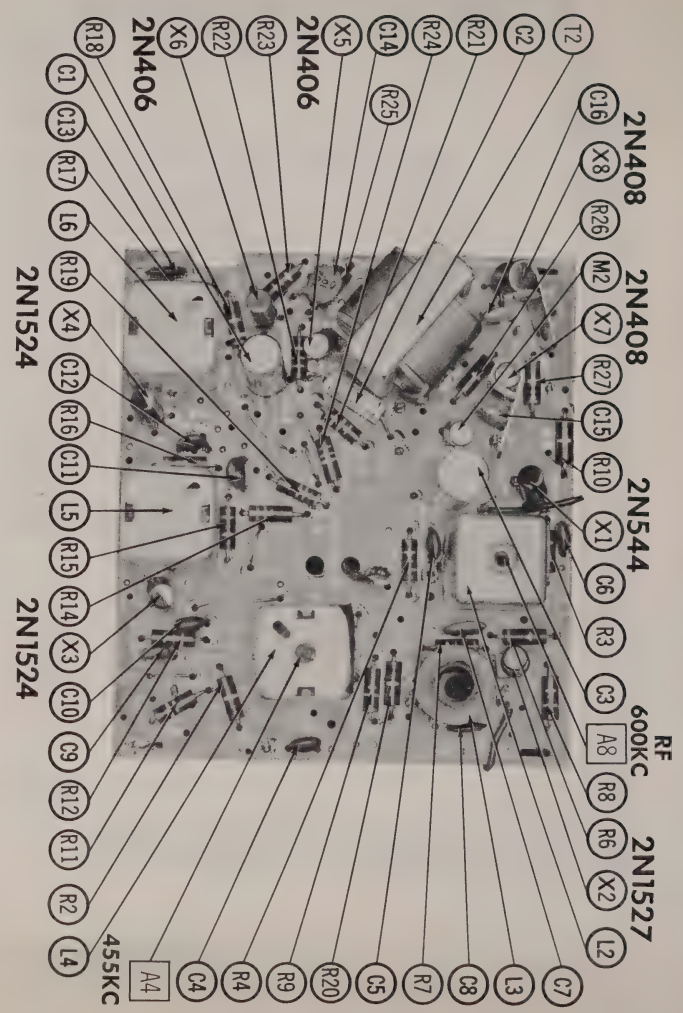
(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Dial	33C402-4	Tuning
Knob	33C402-2	Tuning, Gold Insert
Knob	33C402-3	Volume, Gold Insert
Cabinet	340140-6	Tan

WIRING DATA

General-use Unshielded Hook-up Wire .....Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

CHASSIS—TOP VIEW



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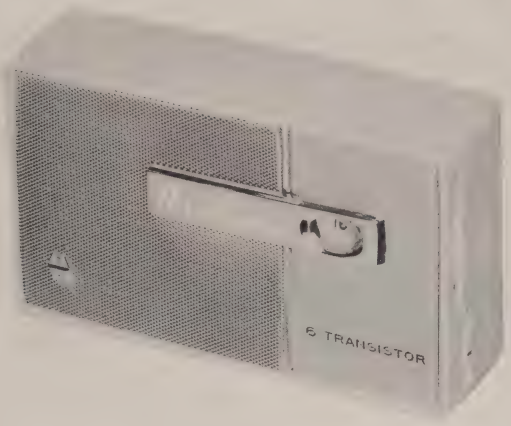
**AIRLINE MODEL
GEN-1202A**

AIRLINE MODEL
GEN-1202A



AIRLINE MODEL
GEN-1202A

TRADE NAME	Airline Model GEN-1202A
SUPPLIER	Montgomery Ward & Co., 619 Chicago Ave., Chicago 7, Illinois
TYPE SET	Battery Operated Transistorized Portable AM Receiver
POWER SUPPLY	9 Volts DC RATING 7MA@9 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	540 – 1640KC 12MA@9 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1, A2, A3..... GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537

A4, A5..... GENERAL CEMENT #5000, 5003, 8276, 8290
WALSCO #2512, 2515, 2522, 2523, 2525, 2537

A6..... GENERAL CEMENT #8282, 8606, 8606-L, 9091
WALSCO #2526, 2541, 2542, 2543, 2544

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .1mfd to base of Converter transistor. Low side to common.	455KC (400% Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3	Adjust for maximum output.
2.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1640KC	"	"	A4, A5	"
3.	"	600KC	"	"	A6, A7	Adjust for maximum output. A7 is adjusted by moving coil along ferrite core. Repeat steps 2 and 3.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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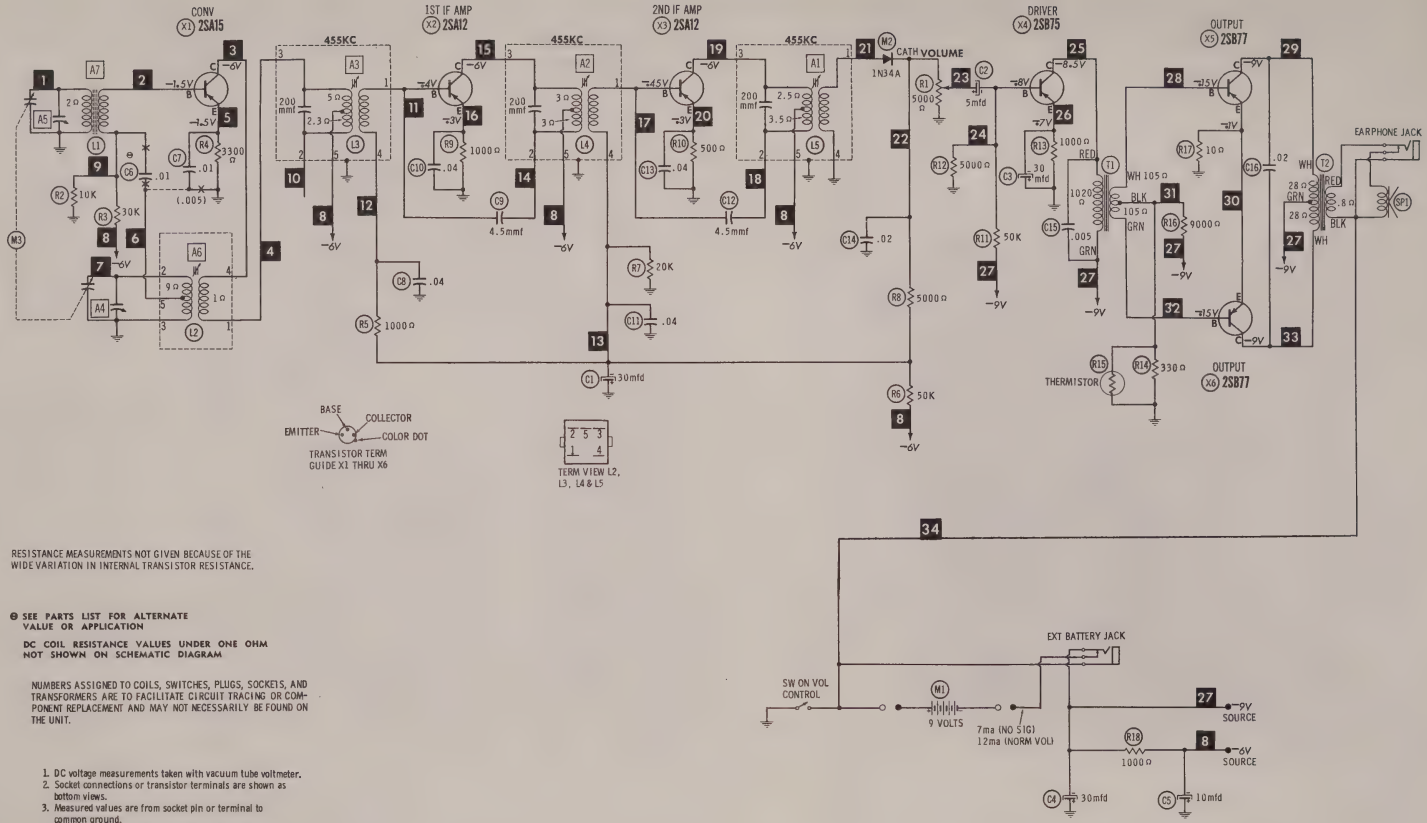
LF102

SET 571 FOLDER 4



RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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AIRLINE MODEL GEN-1202A

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA15	Converter	2N412		PNP
X2	2SA12	1st IF Amplifier	2N410		PNP
X3	2SA12	2nd IF Amplifier	2N410		PNP
X4	2SB75	Driver	2N406		PNP
X5	2SB77	Output	2N408		PNP
X6	2SB77	Output	2N408		PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	AIRLINE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	30	6	J321	BCD6025	NLW30-6	MT1-13	TT6X30		
C2	5	6	J323	BCD6005	NLW5-15	MT1-3	TT6X5		
C3	30	6	J321	BCD6025	NLW30-6	MT1-13	TT6X30		
C4	30	10	J322	BCD1025	NLW30-15				
C5	10	10	J324		NLW10-15	MT1-5			

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	.01	Note 1	C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C7	.01	(.005) †	C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C8	.04	#J332						
C9	4.5		NPO-DI 4.7	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C10	.04	#J332						
C11	.04	#J332						
C12	4.5		NPO-DI 4.7	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C13	.04	#J332						
C14	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C15	.005		C80V502AM	DM-502	H-05D5	CCD-502	TA-250	TG-D50
C16	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20

Note 1. Not used in some versions.
† Alternate Value.
# Airline Part Number.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			AIRLINE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	J258				

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	10K				R11	50K			
R3	30K				R12	5000Ω			
R4	3300Ω				R13	1000Ω			
R5	1000Ω				R14	330Ω			
R6	50K				R15	Thermistor			
R7	20K				R16	9000Ω			
R8	5000Ω				R17	10Ω			
R9	1000Ω				R18	1000Ω			
R10	500Ω								

PRINTED BOARD

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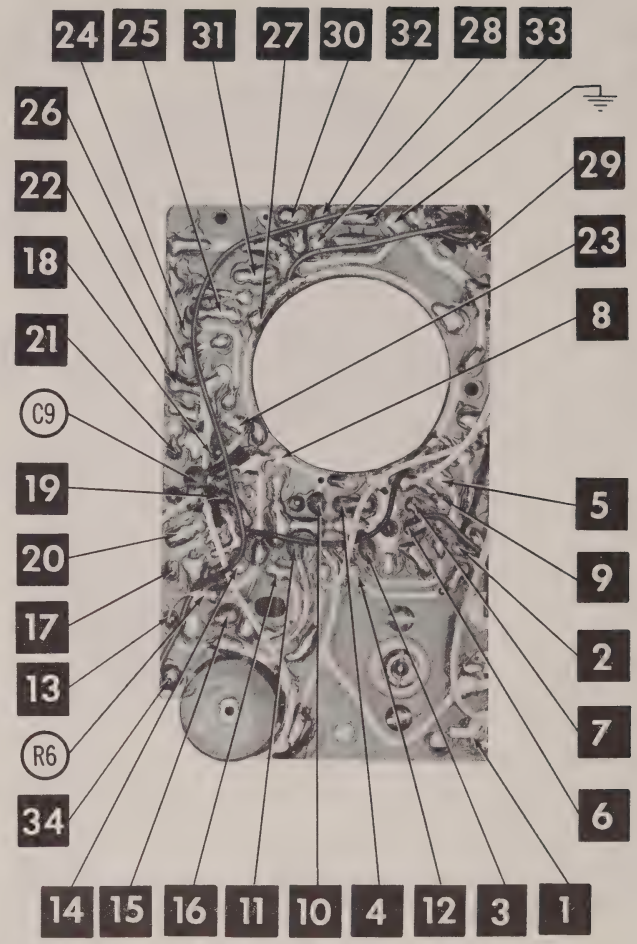


PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		AIRLINE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	Loopstick	J608					
L2	Osc.	J612					
L3	1st IF	J6214					
L4	2nd IF	J6215					
L5	3rd IF	J6212					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	AIRLINE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1.6	1	J113					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	AIRLINE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	1500Ω CT	10-12Ω	J115					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	AIRLINE PART No.	QUAM PART No.	
SP1	2 1/4"	PM	10-12Ω	J108	22A06Z8	

BATTERIES

ITEM No.	VOLTAGE	AIRLINE PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	9V	124		2U6		216		M-1604	

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		AIRLINE PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	1N34A	J243		1N34A	Detector

MISCELLANEOUS

ITEM No.	PART NAME	AIRLINE PART No.	NOTES
M3	Tuning Cap.	J3512	2 Gang

CABINETS & CABINET PARTS

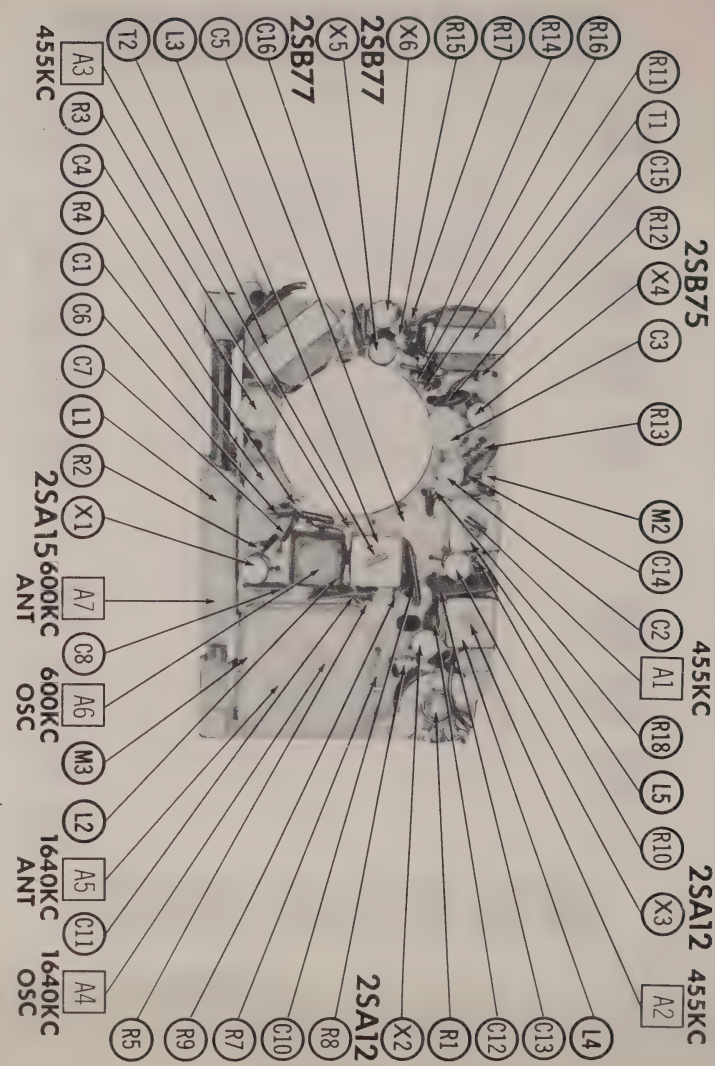
(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Dial Glass	J171	Plastic
Knob	J5018	Tuning
Knob	J5019	Volume
Cabinet Back	J7027	
Cabinet Front	J7026	

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

CHASSIS—TOP VIEW



PHOTOFACT® Folder

**ARKAY MODELS
SQ-9, SQ-9W**

ARKAY MODELS
SQ-9, SQ-9W

MODEL SQ-9W

ARKAY MODELS
SQ-9, SQ-9W

TRADE NAME	Arkay Models SQ-9, SQ-9W
MANUFACTURER	Arkay International, Inc., 88 — 06 Van Wyck Expressway, Jamaica 18, N. Y.
TYPE SET	AC-Battery Operated Crystal Controlled 8 Tube Citizens Band Transmitter-Receiver
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles RATING 58 Watts, .58 Amp. @117 Volts AC
FREQ. RANGE	Any 3 of Citizens Band Channels 1 thru 22 4 Amp. @12.6 Volts DC

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION.
(REFER TO FCC RULES & REGULATIONS PART 19, SUBPART D, SECTION 19.71).

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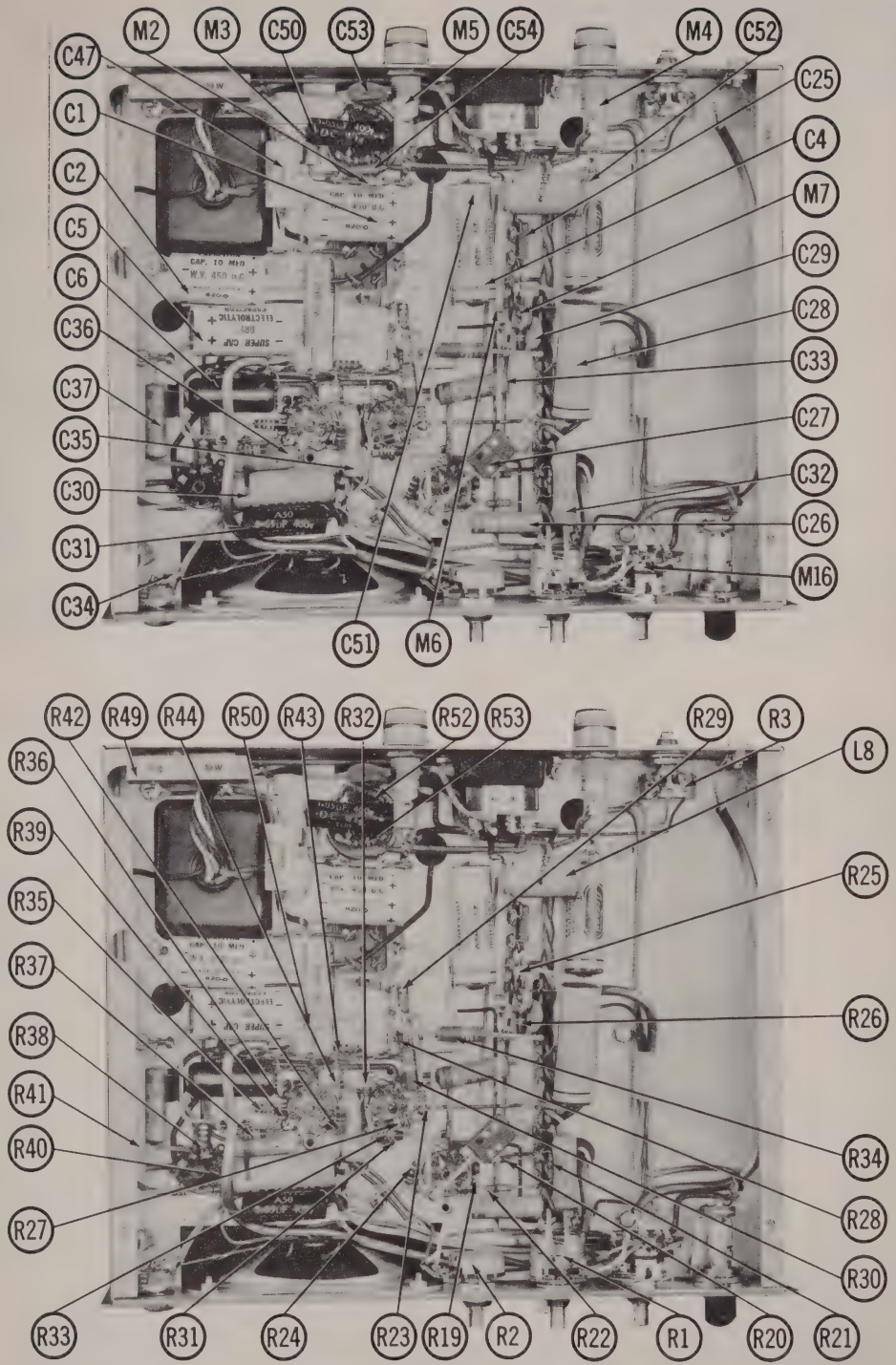
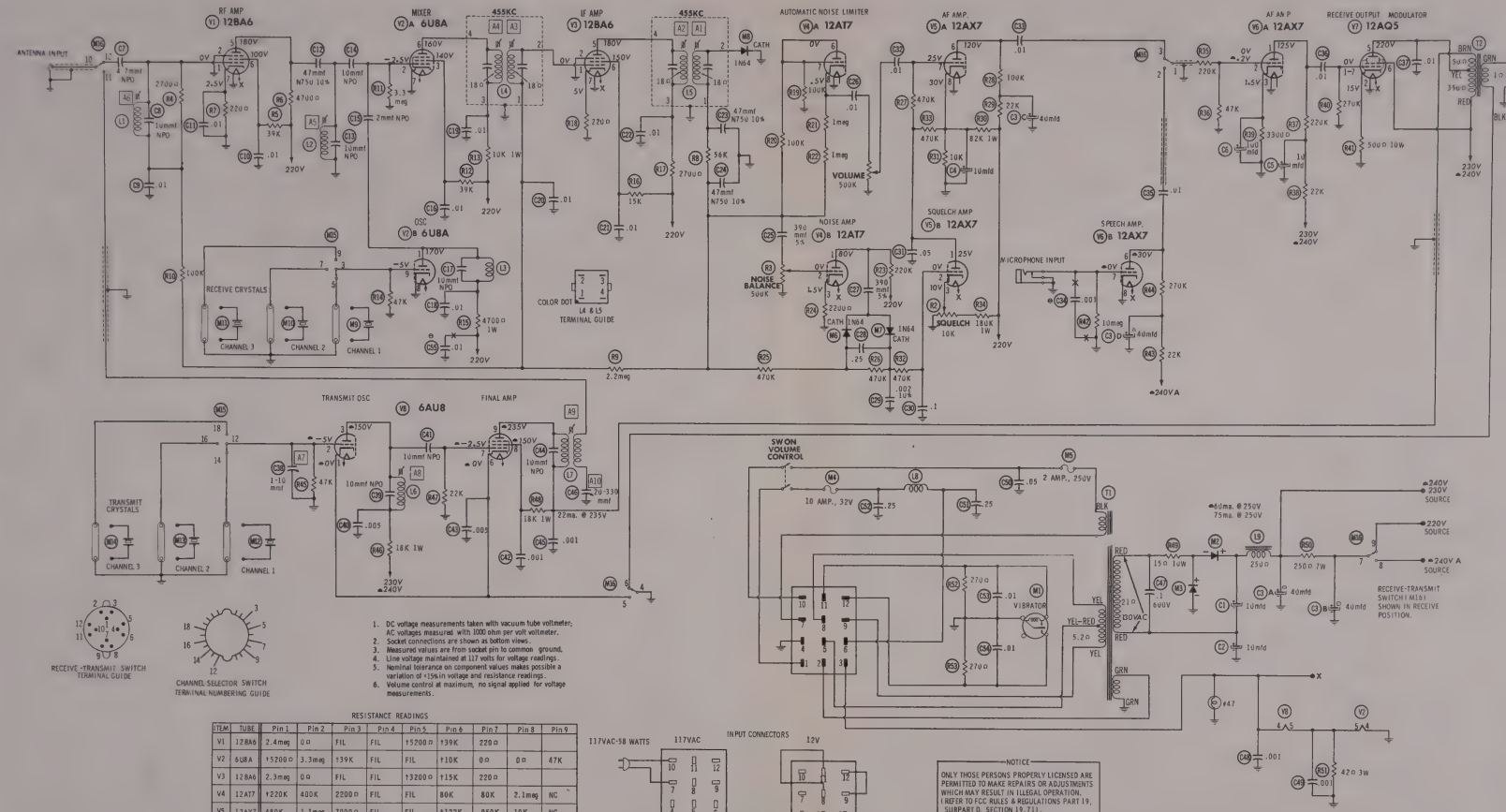


CHASSIS-BOTTOM VIEW



1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±5% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BA6	2.4meg	0Ω	FIL	FIL	↑5200Ω	↑39K	220Ω		
V2	6U8A	↑5200Ω	3.3meg	↑39K	FIL	FIL	↑10K	0Ω	0Ω	47K
V3	12BA6	2.3meg	0Ω	FIL	FIL	↑3200Ω	↑15K	220Ω		
V4	12AT7	↑220K	400K	2200Ω	FIL	FIL	80K	80K	2.1meg	NC
V5	12AX7	480K	1.1meg	7000Ω	FIL	FIL	↑122K	950K	10K	NC
V6	12AX7	↑242K	47K	3300Ω	FIL	FIL	⇌292K	0Ω	0Ω	NC
V7	12AQ5	NC	500Ω	FIL	FIL	↑600Ω	↑250Ω	270K		
V8	6AU8	⇌0Ω	47K	↑18K	FIL	FIL	⇌0Ω	22K	↑18K	↑650Ω

ALL MEASUREMENTS MADE IN "RECEIVE" POSITION UNLESS OTHERWISE DESIGNATED.
⇌ MEASURED IN "TRANSMIT" POSITION.
↑ MEASURED FROM OUTPUT OF M2.
NC NO CONNECTION

● SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

NOTICE

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES & REGULATIONS PART 19, SUBPART D, SECTION 19.71).

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ARKAY MODELS SQ-9, SQ-9W

ALIGNMENT INSTRUCTIONS

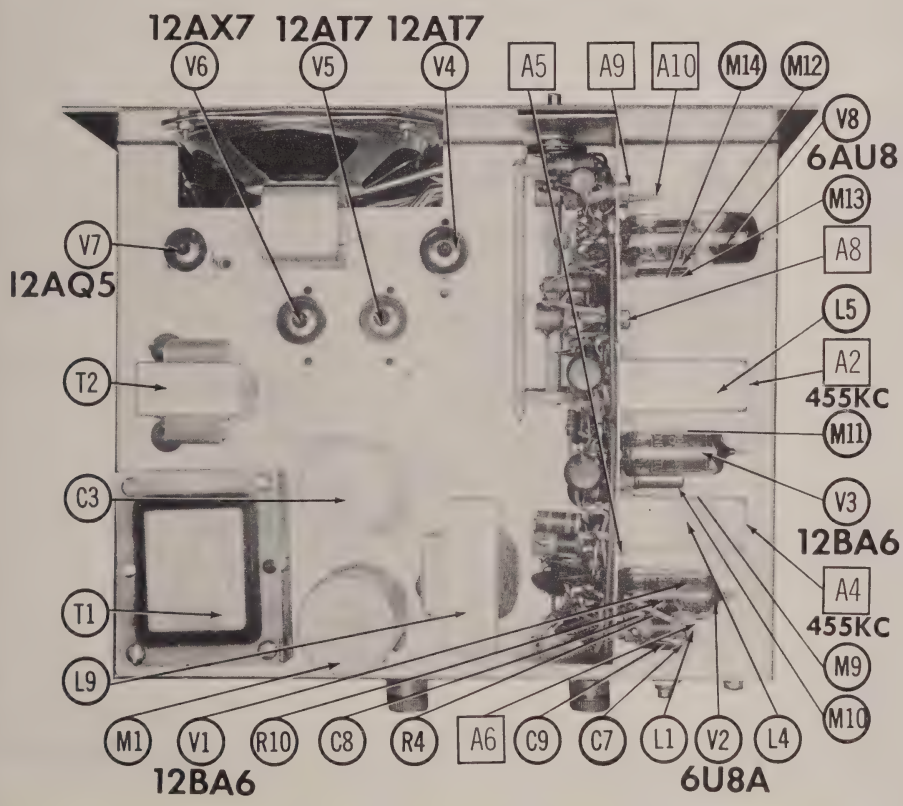
ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

RECEIVER ALIGNMENT

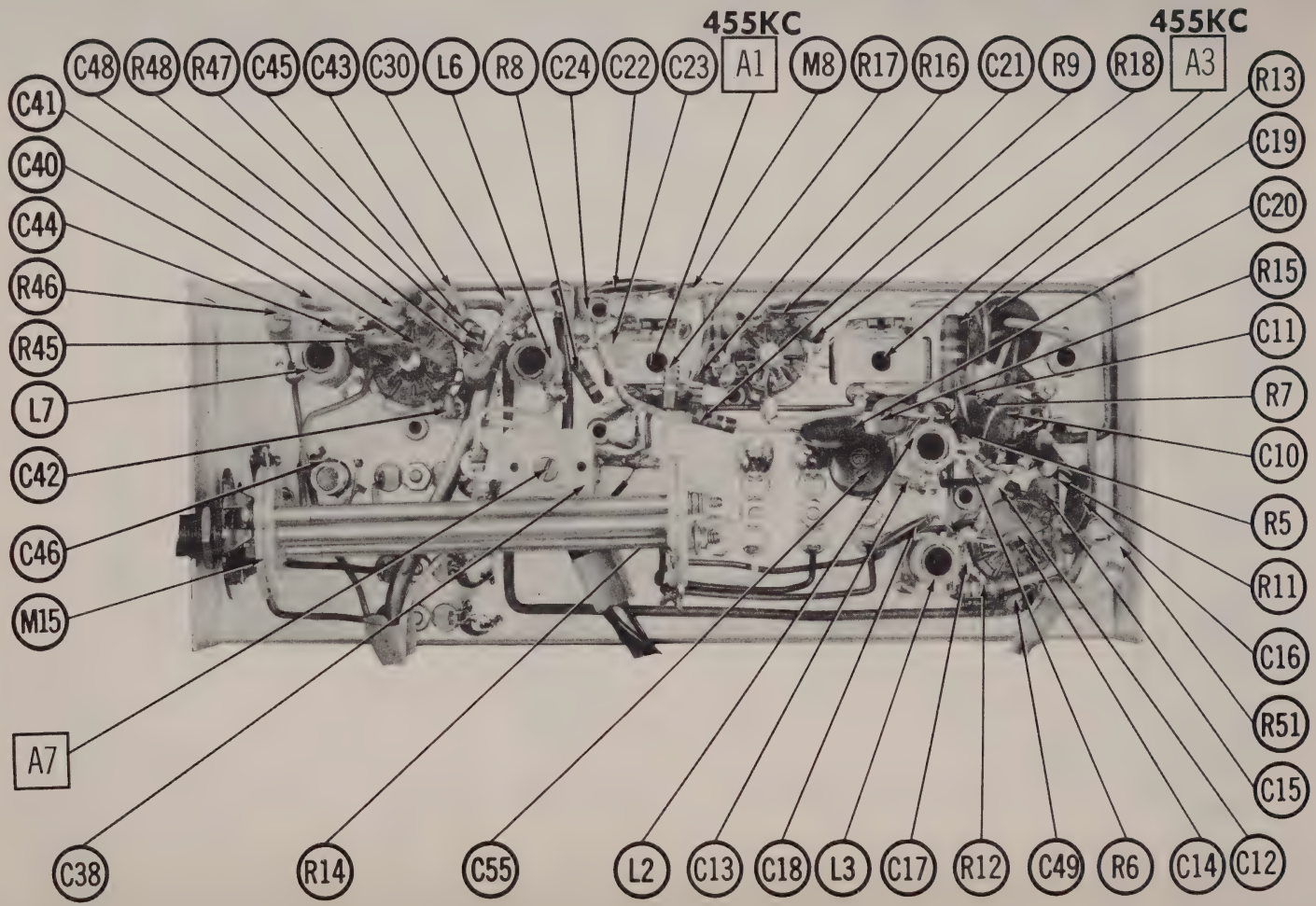
SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
High side thru .001mfd to antenna input jack. Low side to chassis.	455KC (400% Mod.)	Channel 11	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
"	Channel 11 Freq.	Channel 11	"	A5, A6	Adjust for maximum output. If crystals are closely spaced, use center channel frequency.

TRANSMITTER ALIGNMENT

Adjust A7 to center channel frequency using a Frequency meter.
Connect the DC probe of VTVM to pin 7 (grid) of Final. Common to Chassis. Adjust A8 for maximum deflection.
Recheck A7.
Adjust A9 and A10 for maximum output using a Field Strength meter.



CHASSIS—TOP VIEW



RF-IF SUBCHASSIS-BOTTOM VIEW

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	12BA6	V5	Squelch Amp. -AF Amp.	12AX7
V2	Mixer-Osc.	6U8A	V6	AF Amp. -Speech Amp.	12AX7
V3	IF Amplifier	12BA6	V7	Rec. Output-Modulator	12AQ5
V4	ANL-Noise Amplifier	12AT7	V8	Trans. Osc. -Final Amp.	6AU8

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA ARKAY PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	10	450		PRS1720	BR1045	QT1-6	TC72	TD-10-450	TVA-1705
C2	10	450		PRS1720	BR1045	QT1-6	TC72	TD-10-450	TVA-1705
C3A	▲40	450		AFH3-39		XC3-40			TVL-2764
B	■40	450		PRS1750		QT1-14			TVA-2740
C	40	450							
D	▲40	450							
C4	10	450		PRS1720	BR1045	QT1-6	TC72	TD-10-450	TVA-1705
C5	10	450		PRS1720	BR1045	QT1-6	TC72	TD-10-450	TVA-1705
C6	100	25		PRS1270	BBR100-25	QT1-23	TC2501	TD-100-25	TVA-1207

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C7	4.7 NPO		NPO-DI 4.7	DTZ-4R7	C10V47C	CCTO-4R7	CNO-547	10TCC-V47
C8	10 NPO		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C9	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C10	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C11	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C12	47 N750 10%		N750-DI 47	DTN-47	C10Q47U	CCTN-470	CN7-447	10TCU-Q47
C13	10 NPO		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C14	10 NPO		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C15	2 NPO		NPO-DI 2.0	DTZ-2R2	C10V2C	CCTO-2R2	CNO-522	10TCC-V22
C16	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C17	10 NPO		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C18	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C19	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	47 N750 10%		N750-DI 47	DTN-47	C10Q47U	CCTN-470	CN7-447	10TCU-Q47
C24	47 N750 10%		N750-DI 47	DTN-47	C10Q47U	CCTN-470	CN7-447	10TCU-Q47
C25	390 5%		1469-00039		5R5T39	CM-19B-391J		MS-339
C26	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C27	390 5%		1469-00039		5R5T39	CM-19B-391J		MS-339
C28	.25 400V		P488N-25		CUB4P25	4DP-5-254	GEM-4025	4TM-P25
C29	.002 10%		DI-2000		5R5D2	CCD-202	GP220	10TS-D20
C30	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C31	.05 400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S5
C32	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C33	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C34	.001	Note 1	BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C35	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-P10
C36	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-P10
C37	.01 400V		P488N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-P10
C38	1-10			829-10				
C39	10 NPO		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C40	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C41	10 NPO		NPO-DI 10	DTZ-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C42	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C43	.005		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C44	10 NPO		NPO-DI 10	DTN-10	C10Q1C	CCTO-100	CNO-410	10TCC-Q10
C45	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C46	20-330							
C47	.1 600V		P688N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C48	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C49	.001		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C50	.05 400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S50

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C51	.25 400V		P488N-25		CUB4P25	4DP-5-254	GEM-4025	4TM-P25
C52	.25 400V		P488N-25		CUB4P25	4DP-5-254	GEM-4025	4TM-P25
C53	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C54	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C55	.01	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10

Note 1. Not used in some versions.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ARKAY PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	500K	½	CM25966	B-60-S	A47-500K-Z	Q13-133	U48	Volume
B	Shaft			Not Req.	RS-2	Not Req.	Not Req.	
C	Switch			Not Req.	SWE-20	76-2	US-27	Power Off-On
R2A	10K	½		B-15	A47-10K-Z	Q13-116	U18	Squelch
B	Shaft			Not Req.	RS-2	Not Req.	Not Req.	
R3A	500K	½		B-59	A47-500K-S	Q11-133	U50	Noise Balance
B	Shaft			Not Req.	FKS-1/4	Not Req.	Not Req.	

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN TV PART No.	REMARKS
R4	2700Ω			
R5	39K			
R6	4700Ω			
R7	220Ω			
R8	56K			
R9	2.2meg			
R10	100K			
R11	3.3meg			
R12	39K			
R13	10K 1W			
R14	47K			
R15	47K 1W			
R16	15K			
R17	2700Ω			
R18	220Ω			
R19	100K			
R20	100K			
R21	1meg			
R22	1meg			
R23	220K			
R24	2200Ω			
R25	470K			
R26	470K			
R27	470K			
R28	100K			

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN TV PART No.	REMARKS
R29	22K			
R30	82K 1W			
R31	10K			
R32	470K			
R33	470K			
R34	180K 1W			
R35	220K			
R36	47K			
R37	220K			
R38	22K			
R39	3300Ω			
R40	270K			
R41	500Ω 10W			
R42	10meg			
R43	22K			
R44	270K			
R45	47K			
R46	18K 1W			
R47	22K			
R48	18K 1W			
R49	15Ω 10W	PW10-15	10W-SQ-15Ω	
R50	250Ω 7W	PW7-250	7W-SQ-250	
R51	42Ω 3W	PW3-42	3W-SQ-42	
R52	270Ω			
R53	270Ω			

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA ARKAY PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	NOTES
L1	Ant.						
L2	RF						
L3	Osc. Plate						
L4	Input IF		BC-352	12-C1	RTC-8632	T607	
L5	Output IF		BC-353	12-C2	RTC-8633	T608	
L6	Osc. Plate						
L7	Final Plate						
L8	Hash Choke						

PARTS LIST AND DESCRIPTIONS (Continued)

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ~)	ARKAY PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L9	.075A	250Ω	9.5 HY			C-1709		C-7X	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	ARKAY PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	117V @ .58A or 12.6VCT @ 2.2A DC	130V @ .260A AC	12.6V @ 1.8A (AC Only)						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	ARKAY PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	7500Ω Tap @ 12.5%	3-4Ω						

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	ARKAY PART No.	QUAM PART No.	
SP1	4"	PM	3-4Ω		4A15	

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA				NOTES
				ARKAY PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	RADIART PART No.	
M1	Interrupter	12	115%		6301	G1601	6301	

POWER RECTIFIERS

ITEM No.	RATING	REPLACEMENT DATA			NOTES
	CURRENT (Measured)	ARKAY PART No.	RCA PART No.	SARKES TARZIAN PART No.	
M2	075A		1N1763	F6	
M3	075A		1N1763	F6	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			ARKAY PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M4	3AG	10A 32V			311010 (3AG 10A 32V)	155020	AGC 10	HKP
M5	3AG	2A 250V			312002 (3AG 2A 250V)	342001	AGC 2	HKD

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		ARKAY PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M6	1N64			1N64	Squelch Rect.
M7	1N64			1N64	Squelch Rect.
M8	1N64			1N64	Detector

MISCELLANEOUS

ITEM No.	PART NAME	ARKAY PART No.	NOTES
M9	Crystal		Receive
M10	Crystal		Receive
M11	Crystal		Receive
M12	Crystal		Transmit
M13	Crystal		Transmit
M14	Crystal		Transmit
M15	Switch		Channel Selector (Rotary Type)
M16	Switch		Transmit - Receive (Rotary Type)

WIRING DATA

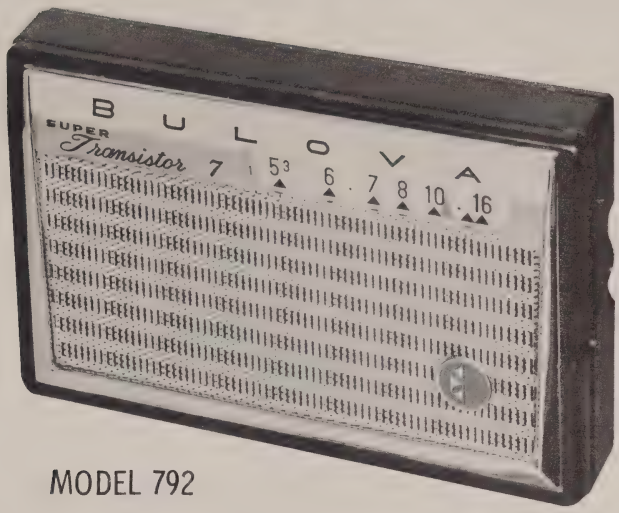
General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)

PHOTOFACT® Folder with CIRCUITRACE®

BULOVA MODELS
792, 793, 795

BULOVA MODELS
792, 793, 795



MODEL 792

BULOVA MODELS
792, 793, 795

TRADE NAME	Bulova Models 792, 793, 795
SUPPLIER	Bulova Watch Co., Bulova Park, Flushing 70, N. Y.
TYPE SET	Battery Operated Transistorized Portable AM Receiver
POWER SUPPLY	9 Volts DC
RATING	6 MA@9 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	540 – 1600KC
	15MA@9 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1, A2, A3, A5..... GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537

A4, A6..... GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089
WALSCO #2512, 2525, 2528

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400% Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3	Adjust for maximum output.
2.	"	1600KC	1600KC	"	A4	"
3.	"	600KC	600KC	"	A5	"
4.	"	1400KC	1400KC Signal.	"	A6	"
5.	"	600KC	600KC Signal.	"	A7	Adjust for maximum output by moving coil turns along ferrite core. Repeat steps 2 thru 5.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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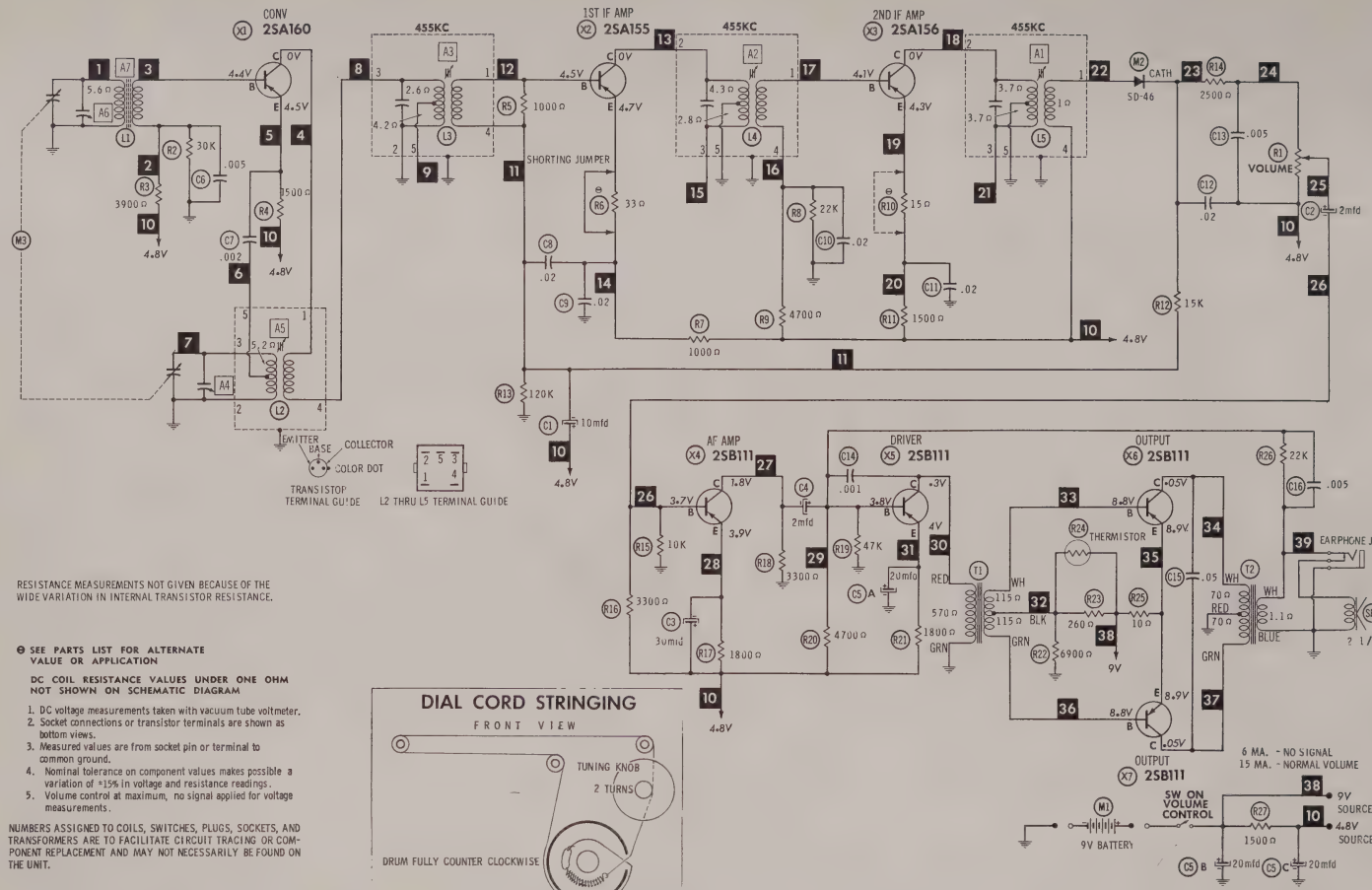
LF056

SET 571 FOLDER 6



RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

❶ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

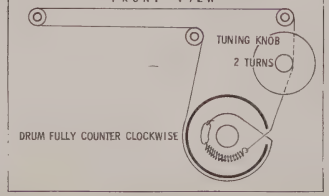
DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

DIAL CORD STRINGING

FRONT VIEW



A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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BULOVA MODELS 792, 793, 795

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA160	Converter	2N412		PNP
X2	2SA155	1st IF Amplifier	2N410		PNP
X3	2SA156	2nd IF Amplifier	2N410		PNP
X4	2SB111	AF Amplifier	2N406		PNP
X5	2SB111	Driver	2N406		PNP
X6	2SB111	Output	2N406		PNP
X7	2SB111	Output	2N406		PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	BULOVA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	10	3	N-55	PTT6	NLW10-6	MT1-5	TT3X10	MLV10-3	TE-1053
C2	2	12	N-57	PTT49	NLW2-50	MT1-1	TT12X2	MLV2-12	TE-1121
C3	30	6	N-56	PTT27	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C4	2	12	N-57	PTT49	NLW2-50	MT1-1	TT12X2	MLV2-12	TE-1121
C5A	20	10	N-62						
B	20	10							
C	20	10							

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	.005		BPD-005	DDM-502	H-05D5	CCD-502	TA-250	TG-D50
C7	.002		BPD-002	DD-202	BYA10D2	CCD-202	GP220	5HK-D20
C8	.02			DA-203	H-05S2	CCD-203	TA-120	TG-S20
C9	.02			DA-203	H-05S2	CCD-203	TA-120	TG-S20
C10	.02			DA-203	H-05S2	CCD-203	TA-120	TG-S20
C11	.02			DA-203	H-05S2	CCD-203	TA-120	TG-S20
C12	.02			DA-203	H-05S2	CCD-203	TA-120	TG-S20
C13	.005		BPD-005	DDM-502	H-05D5	CCD-502	TA-250	TG-D50
C14	.001		BPD-001	DD-102	H-05D1	CCD-102	GP210	5HK-D10
C15	.05			DA-503	H-05S5		TA-150	TG-D50
C16	.005		BPD-005	DDM-502	H-05D5	CCD-502	TA-250	TG-D50

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			BULOVA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	10K	N-43				

RESISTORS

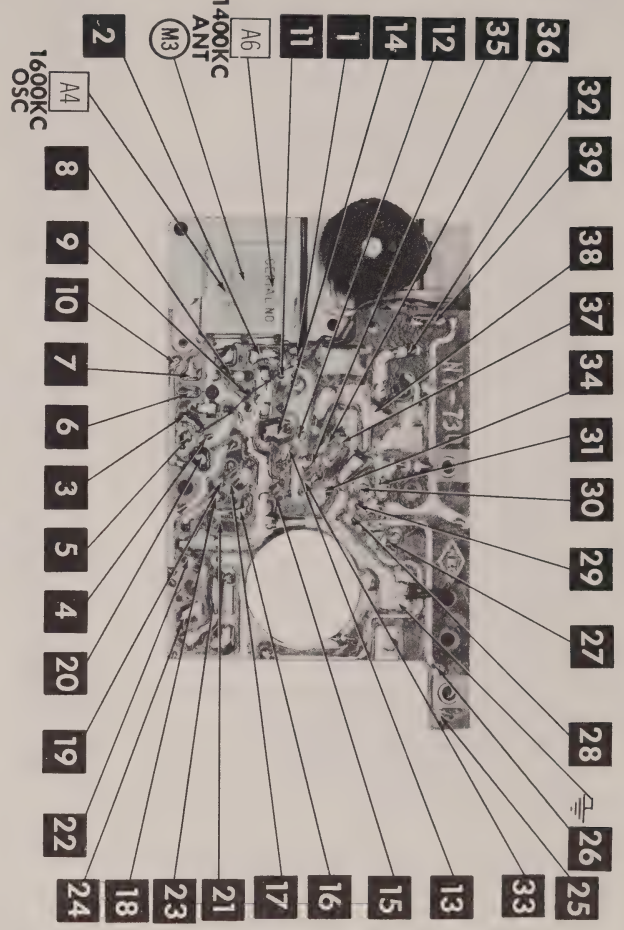
All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	30K				R15	10K			
R3	3900Ω				R16	3300Ω			
R4	1500Ω				R17	1800Ω			
R5	1000Ω				R18	3300Ω			
R6	33Ω			Note 1	R19	47K			
R7	1000Ω				R20	4700Ω			
R8	22K			Note 2	R21	1800Ω			
R9	4700Ω				R22	6900Ω			
R10	15Ω			Note 1	R23	260Ω			
R11	1500Ω				R24	Thermistor			Pt. #N-82
R12	15K				R25	10Ω			
R13	120K				R26	22K			
R14	2500Ω				R27	1500Ω			

Note 1. Value varies between 0-62Ω. Replace with original value.
Note 2. Value varies between 17K-27K. Replace with original value.

PRINTED BOARD

A Howard W. Sams CIRCUITRACE® Photo



PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		BULOVA PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	Loopstick	N-44					Note 1. Part #N-49 includes L2, 3, 4, 5
L2	Osc.	Note 1					
L3	1st IF	Note 1					
L4	2nd IF	Note 1					
L5	3rd IF	Note 1					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	BULOVA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1.4	1	N-51					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	BULOVA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	1000Ω CT	6-8Ω	N-52					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	BULOVA PART No.	QUAM PART No.	
SP1	2 1/4"	PM	6-8Ω	N-1		

BATTERIES

ITEM No.	VOLTAGE	BULOVA PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	9V			2U6		216		M-1604	

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		BULOVA PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	SD-46	N-48		1N60	Detector

MISCELLANEOUS

ITEM No.	PART NAME	BULOVA PART No.	NOTES
M3	Tuning Cap.	N-42	2 Gang

CABINETS & CABINET PARTS

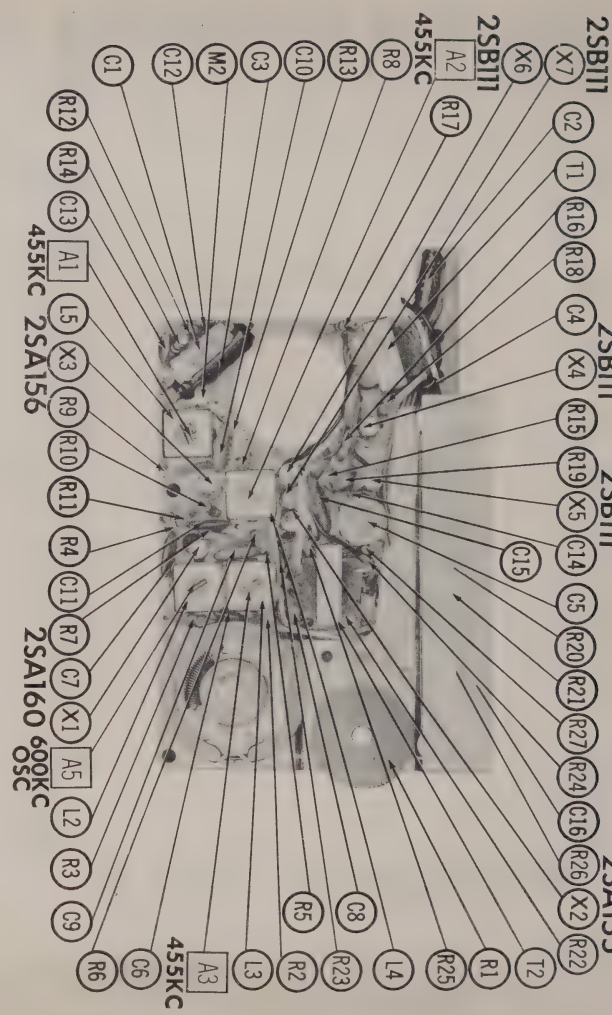
(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Dial Pointer	N-22	
Knob, Tuning	N-20	(Specify Color)
Knob, Volume	N-21	(Specify Color)
Cabinet	N-13	(Specify Color)

WIRING DATA

General-use Unshielded Hook-up Wire .....Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

CHASSIS—TOP VIEW



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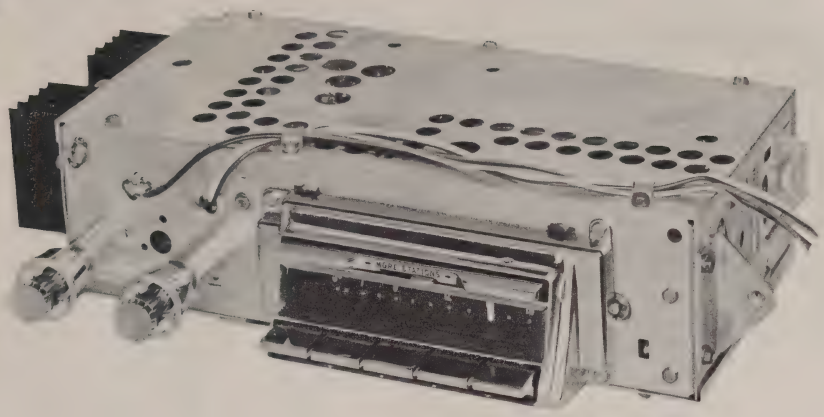
CADILLAC MODEL 7276605



TRADE NAME	Cadillac Model 7276605 (For 1961 Cadillacs)
MANUFACTURER	Delco Radio Div., General Motors Corp., Kokomo, Indiana
TYPE SET	Battery Operated 5 Tube - 1 Transistor Custom Built Automobile AM Receiver
POWER SUPPLY	12 Volt Storage Battery RATING 2.5 Amp. @ 12.6 Volts DC
TUNING RANGE—BROADCAST	540-1615KC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1 thru A5, A9, A10... GENERAL CEMENT #8282, 8606, 8606-L, 9091
WALSCO #2526, 2541, 2542, 2543, 2544

A6, A7, A8..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1.	High side thru .1mfd to pin 7 (grid) of Converter. Low side to chassis.	262KC (400% Mod.)	High end stop.	DC probe to point A . Common to chassis.	A1, A2, A3	Adjust for maximum deflection.
2.	"	"	"	"	A4	Adjust for MINIMUM deflection.
	Check setting of Oscillator core. Rear of core should be 1 5/8" from mounting end of coil form.					
3.	High side thru 82mmf to antenna receptacle. Low side to chassis.	1615KC	"	"	A6, A7, A8	Adjust for maximum deflection.
4.	"	600KC	600KC Signal.	"	A9, A10	"
5.	"	1615KC	1615KC Signal.	"	A7, A8	"
6.	"	900KC	900KC Signal.	"	-	Adjust pointer adjustment until pointer coincides with 900 on dial.
7.	With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and retouch A8 for maximum output.					

PUSHBUTTON ADJUSTMENT

1. Tune manually to desired station.
2. Pull pushbutton out, then press in firmly.
3. Repeat for remaining pushbuttons.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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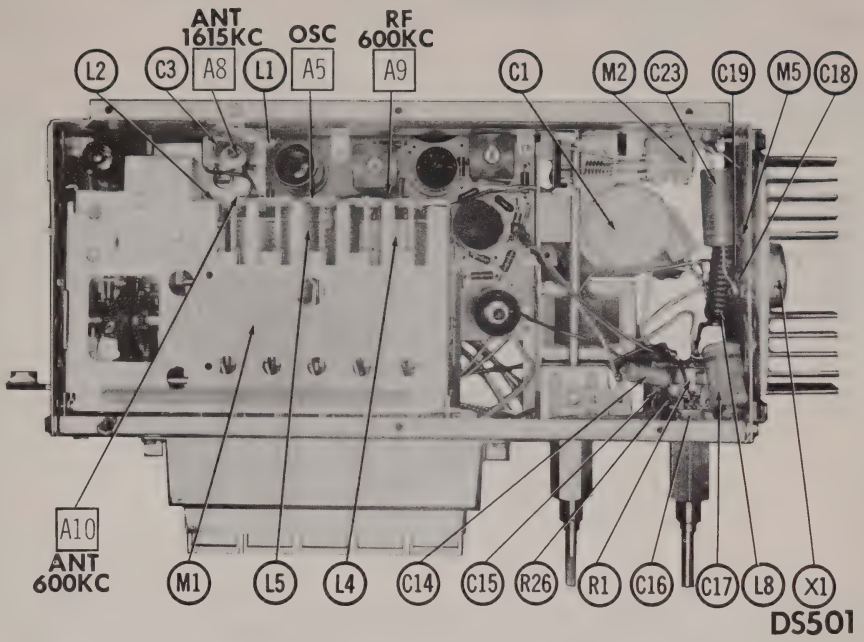
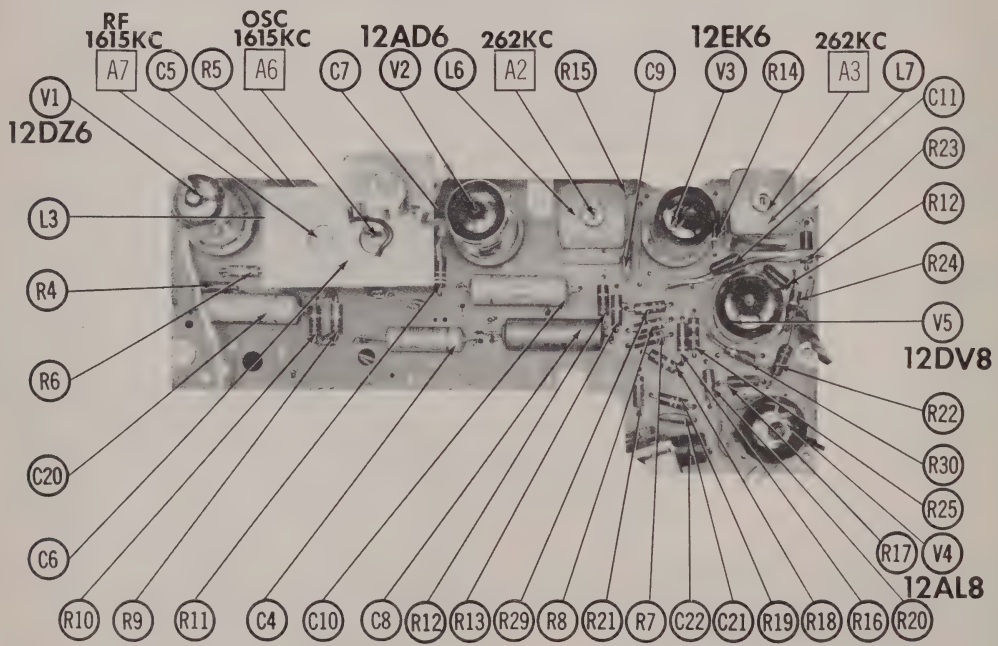
KD933

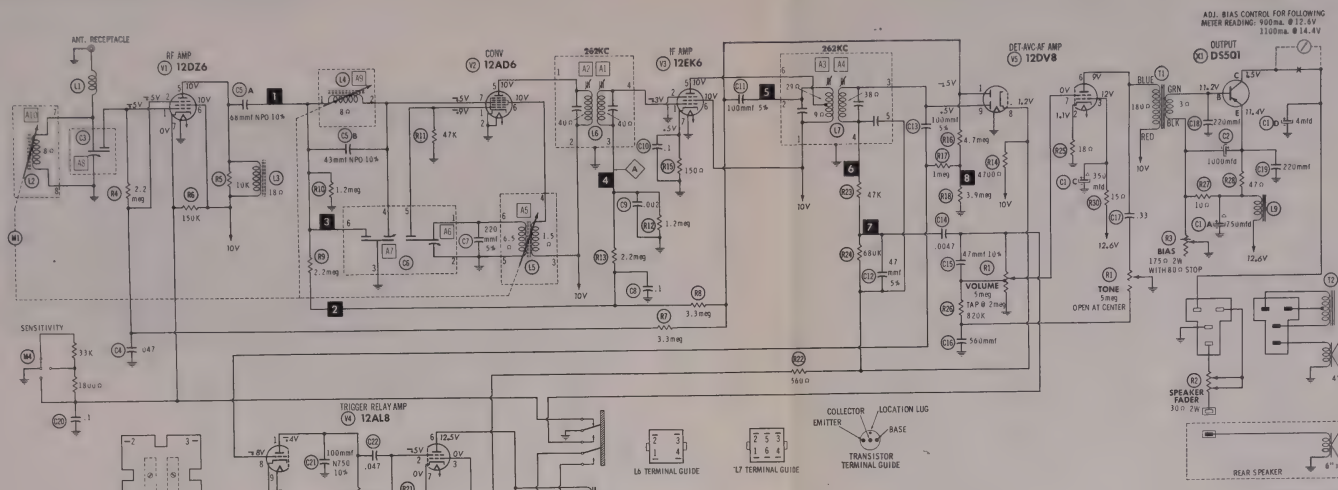
CADILLAC MODEL 7276605
CADILLAC MODEL 7276605
SET 571 FOLDER 7



CHASSIS-TOP VIEW



PRINTED BOARD-TOP VIEW



CADILLAC MODEL 7276605

RESISTANCE READINGS

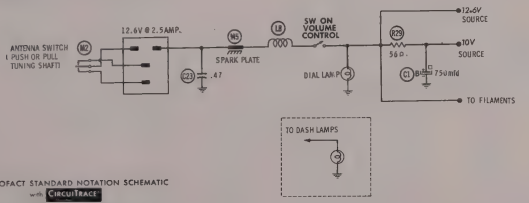
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12DZ6	10 meg	7.8 meg	FIL	FIL	75 Ω	60 Ω	0 Ω		
V2	12AD6	47K	0 Ω	FIL	FIL	100 Ω	60 Ω	1 meg		
V3	12EK6	1 meg	0 Ω	FIL	FIL	80 Ω	80 Ω	150 Ω		
V4	12AL8	680K	2.2 meg	2 Ω	FIL	FIL	200 Ω	27 Ω	3.8 meg	27 Ω
V5	12DV8	3.3 meg	18 Ω	17 Ω	FIL	FIL	240 Ω	0 Ω	590 Ω	730K

TRANSISTOR CIRCUIT RESISTANCE FOR X1 NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Battery voltage maintained at 12.6 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM



A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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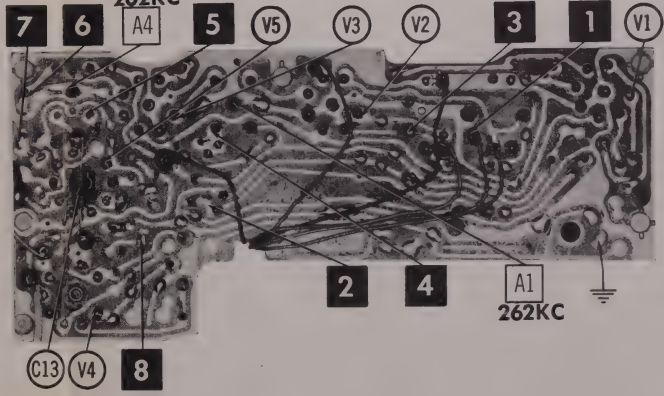

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PRINTED BOARD

ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

PARTS LIST AND DESCRIPTIONS

TUBES

◆ GENERAL ELECTRIC ◆			◆ RAYTHEON ◆ SYLVANIA ◆		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	12DZ6	V4	Trigger Relay Amp.	12AL8
V2	Converter	12AD6	V5	Det.-AVC-AF Amp.	12DV8
V3	IF Amplifier	12EK6			

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	DS501	Output	2N176		PNP Note 1

Note 1. When replacing, apply silicone grease between transistor and heat sink. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	▪750	16	7273847	AFH4-20-77			WP401.8		TVLS-4205*
B	■750	16							
C	▲350	16							
D	4	11.5AC							
C2	1000	1	7271557	PRS1130	BR1000-6	QT1-32	PETA120	TD-1000-6	TVA-1104

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3		#7276860						
C4	.047 75V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C5A	68 NPO 10%		NPO-DI 68	TCZ-68	C10Q68C	CCTO-680	CNO-468	10TCC-Q68
B	43 NPO 10%		NPO-DI 39	TCZ-43	C10Q43C	CCTO-390	CNO-439	
C6		#7273693						
C7	220 5%		1469-00022	TCZ-220	22R5T22	CM-19B-221J	CNO-322	MS-322
C8	.1 75V		P288N-1	DF-104	CUB2P1	1DP-2-104	GEM-201	2TM-P10
C9	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C10	.1 75V		P288N-1	DF-104	CUB2P1	1DP-2-104	GEM-201	2TM-P10
C11	100 5%		1469-0001	TCZ-100	22R5T1	CM-19B-101J	MCE235	MS-31
C12	47 5%		1469-00047	TCZ-47	22R5Q47	CM-19B-470J	CNO-447	MS-447
C13	100 5%		1469-0001	TCZ-100	22R5T1	CM-19B-101J	MCE235	MS-31
C14	.0047 200V		P288N-0047	D6-472	CUB6D47	6DP-1-472	GEM-6247	6TM-D47
C15	47 10%		1469-000047	TCZ-47	C10Q47C	CM-19B-470J	CNO-447	MS-447
C16	560		DI-560	DD-561	L10T56	CCD-561	B-356	10TS-T56

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C17	.33 100V		P288N-33		DPMS4P33	1DP-4-334	GEM-2033	2PS-P33
C18	220		DI-220	DD-221	L10T22	CCD-221	B-322	10TS-T22
C19	220		DI-220	DD-221	L10T22	CCD-221	B-322	10TS-T22
C20	.1 75V		P288N-1	DF-104	CUB2P1	1DP-2-104	GEM-201	2TM-P10
C21	100 N750 10%		N750-DI 100	TCN-100	C10T1U	1DP-2-101	CCTN-101	10TCU-T10
C22	.047 100V		P288N-047	DD-503	CUB2S47	1DP-2-473	GEM-4147	2TM-S47
C23	.47 100V		P288N-47		CUB2P47	1DP-4-474	GEM-2047	2TM-P47

Delco Part Number.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	5meg*	7278314				
B	Volume & Switch (Off-On)	5meg (2meg Tap)					
R2	Speaker Fader	30Ω (2W)	7276882				
R3	Bias	175Ω (2W) (80Ω Stop)	7276052 ①		39-100 †	112-100 †	FL-100 †

* Open at center of Rotation: Low End 50K, High End 5meg.
① Temperature Compensated.
† Use 100Ω 2W Resistor in series with terminal.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS
R4	2.2meg			
R5	10K			
R6	150K			
R7	3.3meg			
R8	3.3meg			
R9	2.2meg			
R10	1.2meg			
R11	47K			
R12	1.2meg			
R13	2.2meg			
R14	4700Ω			
R15	150Ω			
R16	4.7meg			
R17	1meg			

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS
R18	3.9meg			
R19	680K			
R20	27Ω			
R21	2.2meg			
R22	560Ω			
R23	47K			
R24	680K			
R25	18Ω			
R26	820K			
R27	10Ω			
R28	.47Ω			Pt.#7270680
R29	56Ω			
R30	15Ω			

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	RF Choke(6.5uh)	7255738	BC-565	4610	RTC-8520	T859	
L2	Ant.	1221138					
L3	RF Choke(1.8MH)	7269684	BC-514	4664	RTC-8533	T875	
L4	RF	1221138					
L5	Osc.	1221151					
L6	Input IF	1221257	BC-344	13-PH1	RTC-8644	T655	
L7	Output IF	1221253	BC-424				
L8	Hash Choke(1.4uh)	1217846					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ~)	DELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L9	1A	.7Ω	.011HY	7274342		TC-2			

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	6.8	1	1221590		TA-48			

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
	PRI.	DELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	8Ω Tap@ 3-4Ω	7277396		TA-50			

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	DELCO PART No.	QUAM PART No.	
SP1	4"x 10"	PM	3-4Ω	7277395	410A2	* Rear Speaker
	6"x 9"	PM	3-4Ω	7262245*		

MISCELLANEOUS

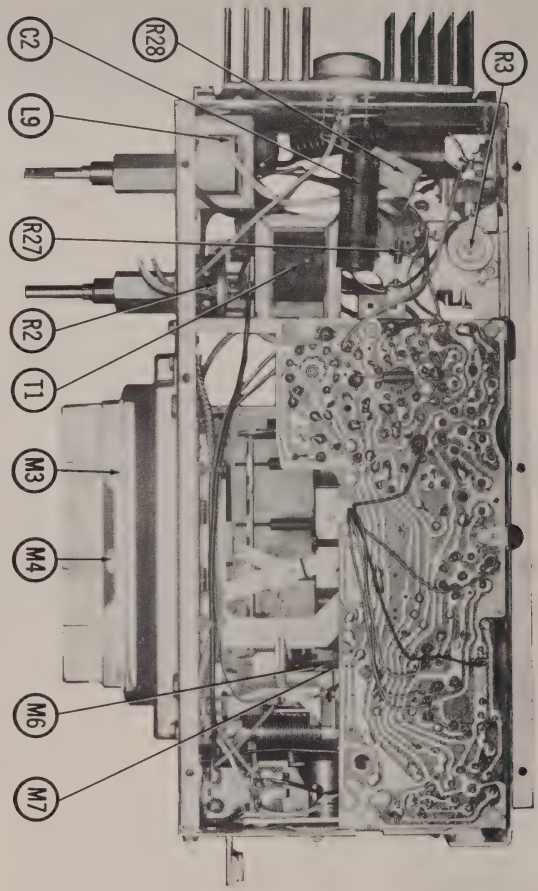
ITEM No.	PART NAME	DELCO PART No.	NOTES
M1	Tuner		Pushbutton Type, Signal Seeking, Series F3
M2	Switch	7271223	Antenna
M3	Switch	1221408	Includes Pushbar & Solenoid
M4	Switch	7276869	Sensitivity (Includes Pushbar, 33K & 1800Ω Resistors)
M5	Spark Plate	7276044	
M6	Relay	7270545	Tuner Operating
M7	Solenoid & Plunger Ass'y.	1221409	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Dial Pointer	1221525	
#1 Pushbutton	7276862	
#2 Pushbutton	7276863	
#3 Pushbutton	7276864	
#4 Pushbutton	7276815	
#5 Pushbutton	7276866	
Knob	1475852	Tuning, Volume
Knob	1476056	Tone, Speaker

CHASSIS—BOTTOM VIEW



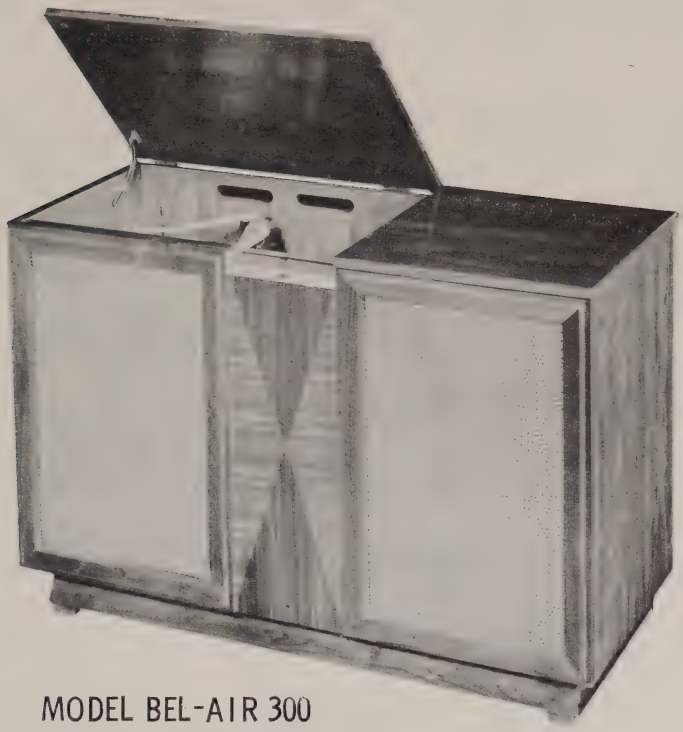
WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Shielded Hook-up Wire	Use BELDEN No. 8885
Bonding Strap	Use BELDEN No. 8661

PHOTOFACT® Folder

**DUMONT CHASSIS
120522B, 120523B**

DUMONT CHASSIS
120522B, 120523B



MODEL BEL-AIR 300

TRADE NAME	Dumont Models Bel-Air 300, D'Orsay 300, Douglas 300 (Tuner CH. 120523B, Amp. CH. 120522B)		
MANUFACTURER	Dumont, Div. of Emerson Radio Inc., 14th & Coles Streets, Jersey City, N. J.		
TYPE SET	AC Operated 8 Tube Tuner, 9 Tube Stereo Amplifier and 4 Speed Automatic Record Changer		
POWER SUPPLY	110 – 120 Volts AC	RATING	40 Watts, .35 Amp. @117 Volts AC (Tuner) 120 Watts, 1.15 Amp. @117 Volts AC (Amp.)
TUNING RANGE—BROADCAST	540 – 1638KC	FREQ. MOD.	88 – 109.3MC

FOR SERVICE INFORMATION ON RECORD CHANGER 819160 – SEE SIMILAR GLASER -STEERS GS-77 (REVISED) – PHOTOFACT SET 482 FOLDER 11

DUMONT CHASSIS
120522B, 120523B

SET 571 FOLDER 8

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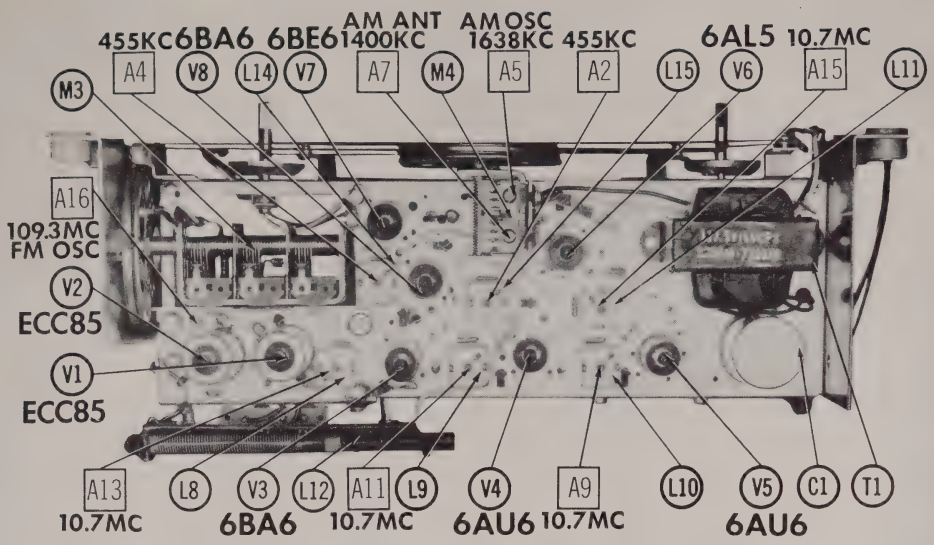
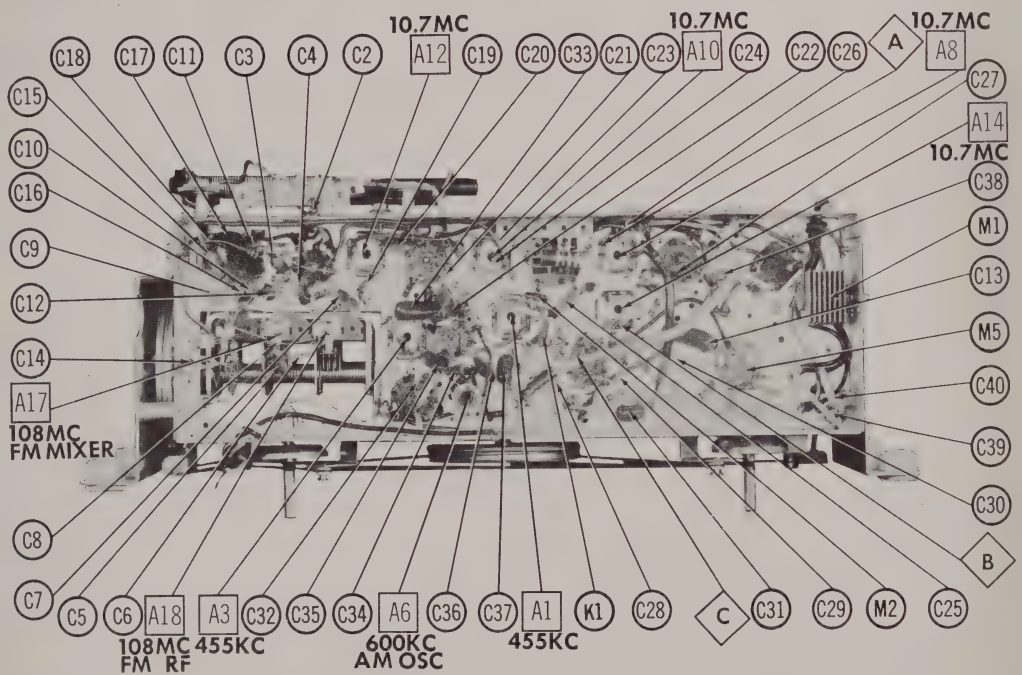


TUNER CHASSIS-TOP VIEW



TUNER CHASSIS BOTTOM VIEW
ALIGN., CAPACITOR & MISC. IDENT.

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use only enough generator output to provide a usable indication.
Suggested Alignment Tools:

A1 thru A4, A8 thru A15.... GENERAL CEMENT #5097, 8727
WALSCO #2515

A5, A7, A16, A17, A18..... GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520

A6..... GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545

AM ALIGNMENT — SELECTOR IN AM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1.	High side thru .1mfd to antenna stator lug of AM tuning gang. Low side to chassis.	455KC (400~ 30% AM)	(AM) Tuning gang fully open.	AC probe across AM Audio Output jack.	A1, A2, A3, A4	Adjust for maximum deflection.
2.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1638KC	"	"	A5	"
3.	"	600KC	600KC	"	A6	"
4.	"	1400KC	1400KC Signal.	"	A7	Adjust for maximum deflection. Repeat steps 2, 3 and 4.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM — SELECTOR IN FM POSITION

AFC "Off".

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
5.	High side thru .001mfd to FM antenna terminal. Low side to chassis.	10.7MC (Unmod.)	(FM) Point of non-interference.	DC probe to point (A). Common to chassis.	A8, A9, A10, A11, A12, A13	Adjust for maximum deflection.
6.	"	"	"	DC probe thru 1meg to point (B). Common to chassis.	A14	"
7.	"	"	"	DC probe to point (C). Common to chassis.	A15	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE — SELECTOR IN FM POSITION

Use frequency modulated signal with 60~ modulation and 450KC sweep. Use 120~ sawtooth voltage in scope for horizontal deflection.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
5.	High side thru .001mfd to FM antenna terminal. Low side to chassis.	10.7MC (450KC Swp)	(FM) Point of non-interference.	Vert. amp. to point (A). Low side to chassis.	A8, A9, A10, A11, A12, A13	Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown.
6.	"	"	"	Vert. amp. thru 47K to point (B). Low side to chassis.	A14	"
7.	"	"	"	Vert. amp. to point (C). Low side to chassis.	A15	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A14 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT — SELECTOR IN FM POSITION

AFC "Off".

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
8.	High side thru 270Ω to FM antenna terminal. Low side to chassis.	109.3MC (Unmod.)	(FM) Tuning gang fully open.	DC probe to point (A). Common to chassis.	A16	Adjust for maximum deflection.
9.	"	108MC	108MC Signal.	"	A17, A18	"

FIG. 1

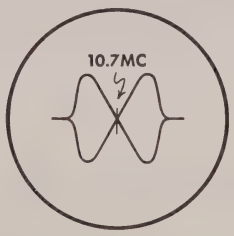
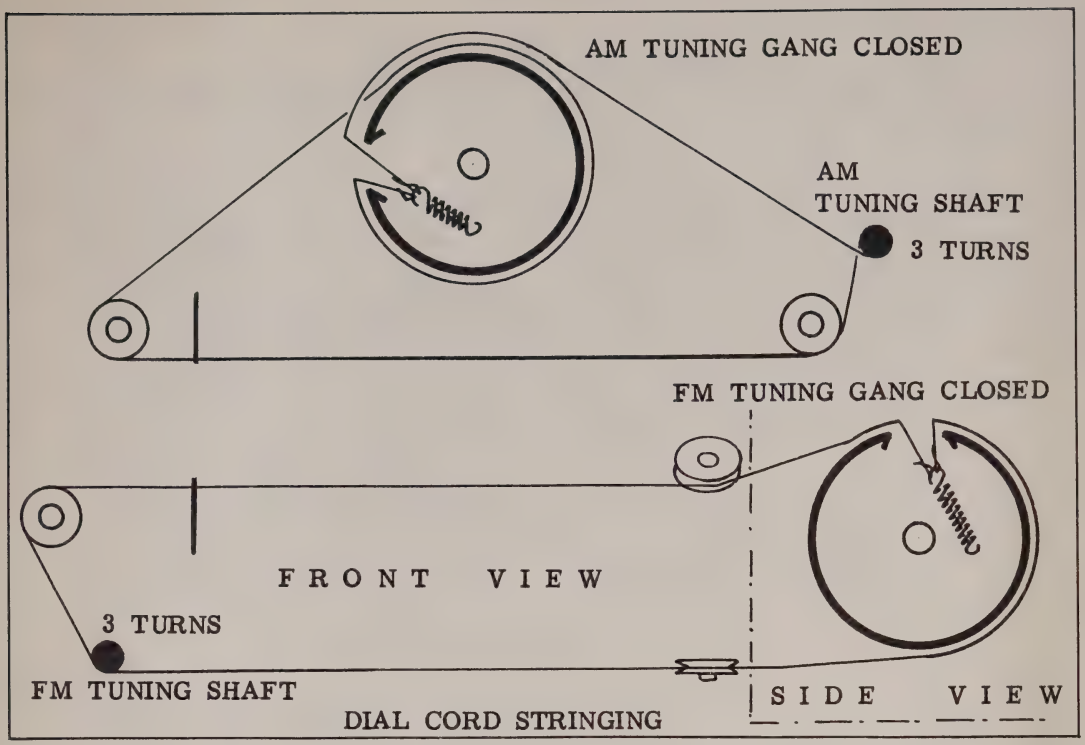
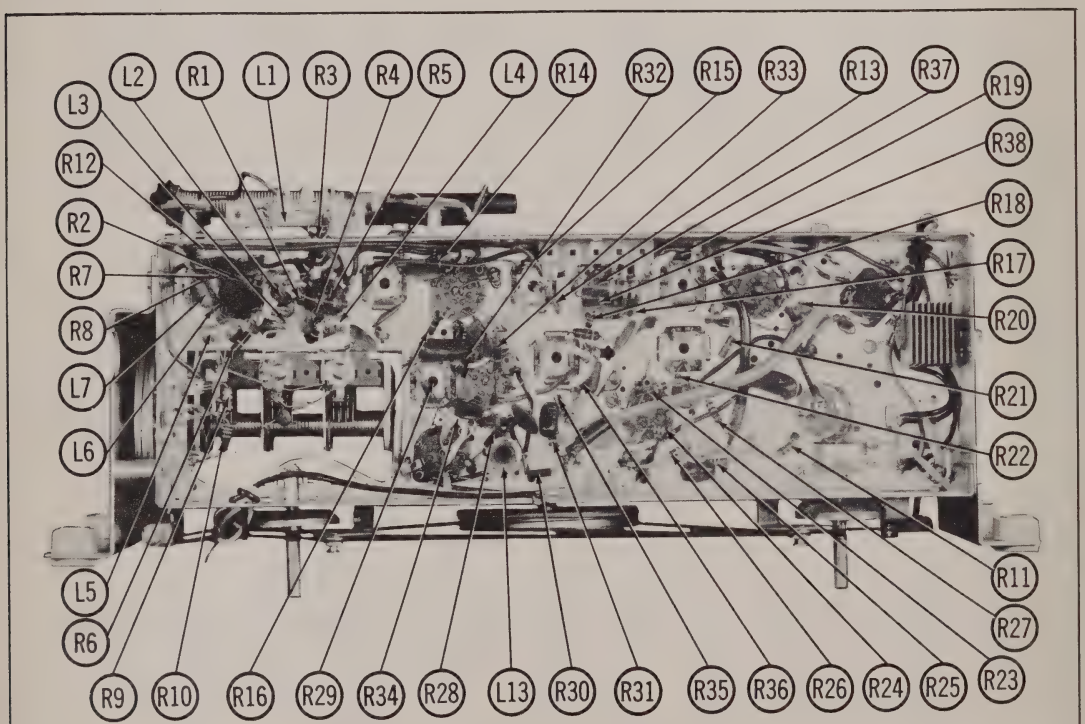


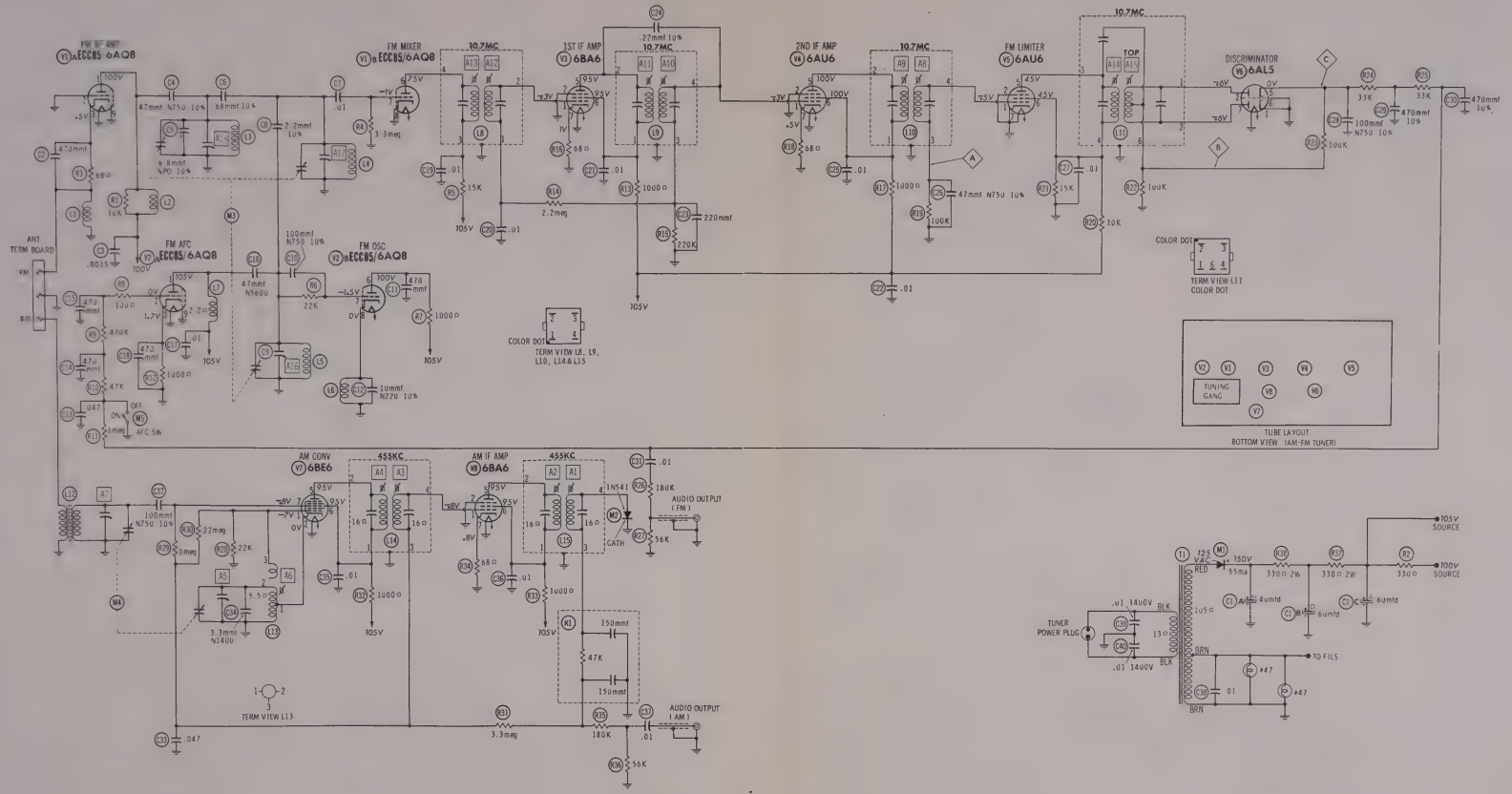
FIG. 2



DIAL CORD STRINGING



TUNER CHASSIS BOTTOM VIEW-RESISTOR & INDUCTOR IDENT.



DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±5% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	ECC85 6AQ8	†990Ω	0Ω	68Ω	FIL	FIL	†16K	3.3meg	0Ω	0Ω
V2	ECC85 6AQ8	†660Ω	1.8meg ■517K	1000Ω	FIL	FIL	†1600Ω	22K	.1Ω	0Ω
V3	6BA6	2.4meg	0Ω	FIL	FIL	†1600Ω	†1600Ω	68Ω		
V4	6AU6	220K	0Ω	FIL	FIL	†1600Ω	†1600Ω	68Ω		
V5	6AU6	100K	0Ω	FIL	FIL	†10K	†10K	0Ω		
V6	6AL5	0Ω	100K	FIL	FIL	200K	0Ω	100K		
V7	6BE6	22K	.3Ω	FIL	FIL	†1600Ω	†1600Ω	4.3meg		
V8	6BA6	3.3meg	0Ω	FIL	FIL	†1600Ω	†1600Ω	68Ω		

ALL MEASUREMENTS MADE IN "AM FM" POSITION WITH AFC ON AND BALANCE CONTROL DISCONNECTED, UNLESS OTHERWISE DESIGNATED.

■ MEASURED WITH AFC OFF.

† MEASURED FROM OUTPUT OF M1.

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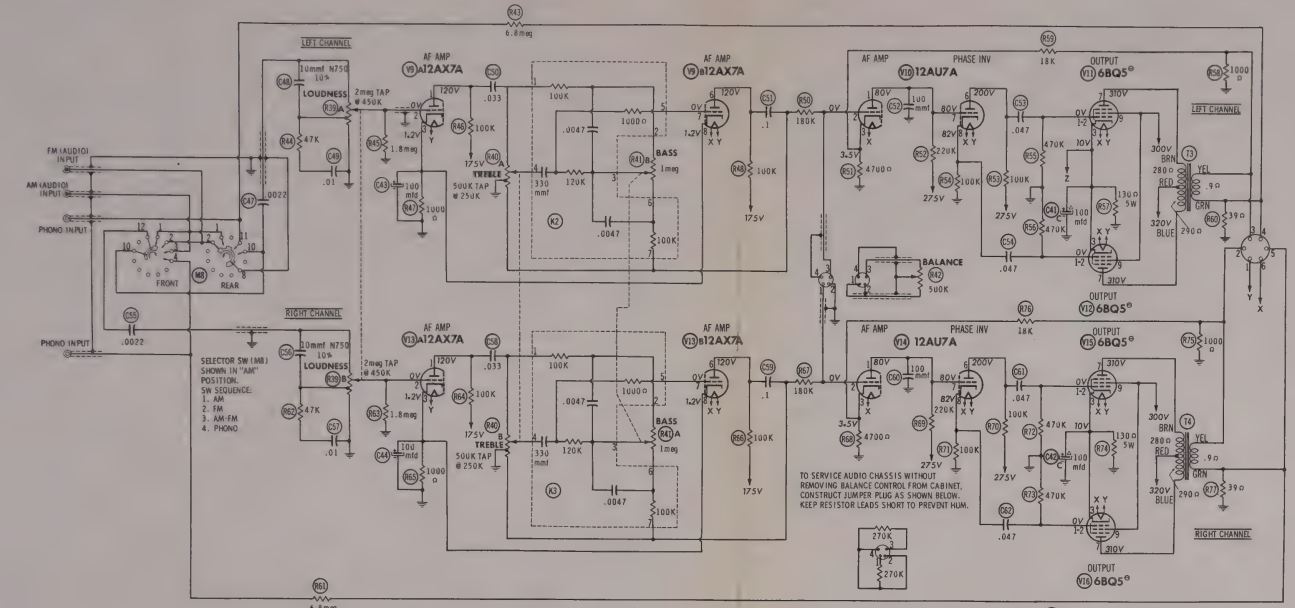
TUNER SCHEMATIC

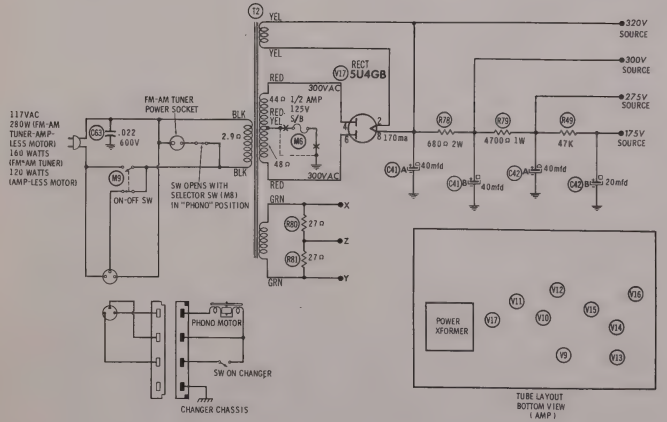
DUMONT CHASSIS 120522B, 120523B



RESISTANCE READINGS (Cont.)

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V9	12AX7	†150K	0 Ω	1000 Ω	FIL	FIL	†150K	430K	1000 Ω	FIL
V10	12AU7A	†225K	400K	4100 Ω	FIL	FIL	†105K	†225K	100K	FIL
V11	6BQ5	NC	470K	130 Ω	FIL	FIL	NC	†280 Ω	NC	†680 Ω
V12	6BQ5	NC	470K	130 Ω	FIL	FIL	NC	†290 Ω	NC	†680 Ω
V13	12AX7	†150K	0 Ω	1000 Ω	FIL	FIL	†150K	430K	1000 Ω	FIL
V14	12AU7A	†225K	400K	4100 Ω	FIL	FIL	†105K	†225K	100K	FIL
V15	6BQ5	NC	470K	130 Ω	FIL	FIL	NC	†280 Ω	NC	†680 Ω
V16	6BQ5	NC	470K	130 Ω	FIL	FIL	NC	†290 Ω	NC	†680 Ω
V17	5U4GB	NC	¶ INF	NC	44 Ω	NC	48 Ω	NC	¶ INF	

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
† MEASURED FROM PIN 8 OF V17. NC NO CONNECTION



● SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.

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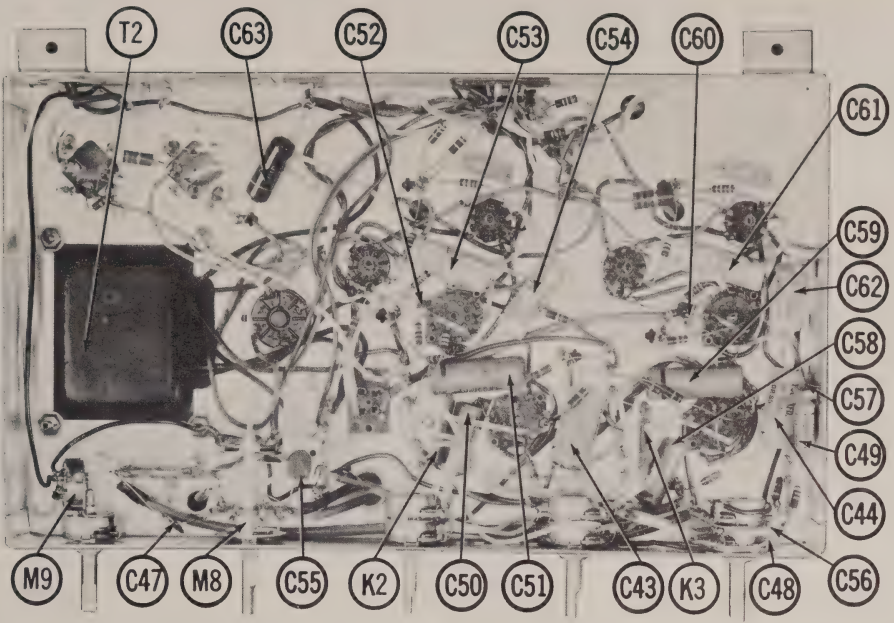
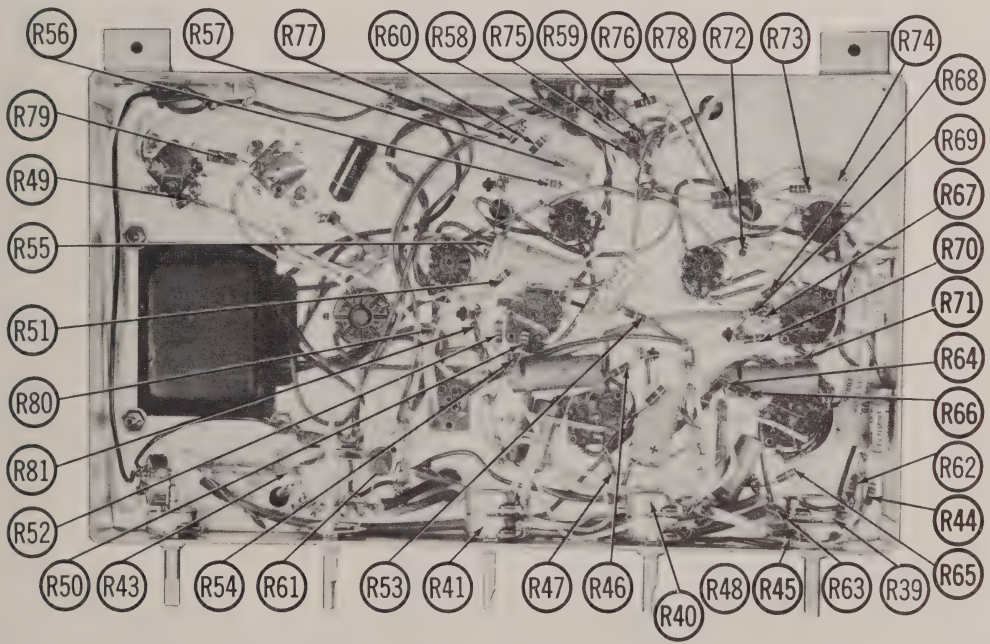
DUMONT CHASSIS 120522B, 120523B

AMP SCHEMATIC

SET 571 FOLDER 8 PAGE 7 PAGE 8



AMP CHASSIS BOTTOM VIEW-CAPACITOR & MISC. IDENT.



AMP CHASSIS BOTTOM VIEW-RESISTOR IDENT.

TUNER PARTS LIST AND DESCRIPTIONS

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7½ Ft. Length)

TUBES

◆ GENERAL ELECTRIC ◆ RAYTHEON ◆ SYLVANIA ◆

ITEM No.	USE	TYPE
V1	FM RF Amp. -FM Mixer	ECC85/6AQ8
V2	FM Osc. -FM AFC	ECC85/6AQ8
V3	1st FM IF Amplifier	6BA6
V4	2nd FM IF Amplifier	6AU6
V5	FM Limiter	6AU6
V6	Discriminator	6AL5
V7	AM Converter	6BE6
V8	AM IF Amplifier	6BA6

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	DUMONT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	▲40	200	925482	AFH3-25-50	B0190		WP318.77	TMD-2205	TVL-2462
B	■60	200			BR4025			TD-40-250	TVA-1511
C	▲60	200							

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C3	.0015		BPD-0015	DD-152	BYA10D15	CCD-152	B-215	5HK-D15
C4	47 N750 10%		N750-DI 47	DTN-47	C10Q47U	CCTN-470	CN7-447	10TCU-Q47
C5	6.8 NPO 10%		NPO-DI 6.8	DTZ-6R8	C10V68C	CCTO-6R8	CNO-568	10TCC-V68
C6	.68 10%	#928202	NPO-SI .68	TCZ-R68				
C7	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C8	2.2 10%		NPO-SI 2.2	TCZ-2R2	C10V22C	CCTO-2R2	CNO-522	10TCC-V22
C9		#900179						
C10	100 N750 10%		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C11	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C12	10 N220 10%	#928985				*		10TCR-Q10
C13	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C14	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C15	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C16	47 N5600	#928986				*		
C17	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C18	470		DI-470	DD-471	BYA10T47	CCD-471	B-347	10TS-T47
C19	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C20	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C21	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C22	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C23	220		DI-220	DD-221	L10T22	CCD-221	B-322	10TS-T22
C24	.22mmf 10%	#928196						
C25	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C26	47 N750 10%		N750-DI 47	DTN-47	C10Q47C	CCTN-470	CN7-447	10TCU-Q47
C27	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C28	100 N750 10%		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C29	470 10%		DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T47
C30	470 10%		DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T47
C31	.01 400V		P488N-01	D6-103	CUB4SI	4DP-3-103	GEM-411	4TM-S10
C32	100 N750 10%		N750-DI 100	DTN-100	C10T1U	CCTN-101	CN7-310	10TCU-T10
C33	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C34	3.3 N1400	#928777						
C35	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C36	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C37	.01 400V		P488N-01	D6-103	CUB4SI	4DP-1-103	GEM-411	4TM-S10
C38	.01		BPD-01	DD-103	BYA10SI	CCD-103	B-110	5HK-S10
C39	.01 1400V		DAC-27	DD16-103	HVE16SI	16DP-3-103	UAC-110	BL-SI0
C40	.01 1400V		DAC-27	DD16-103	HVE16SI	16DP-3-103	UAC-110	BL-SI0

Dumont Part Number.
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN TV PART No.	REMARKS
R1	10K			
R2	330Ω			
R3	68Ω			
R4	3.3meg			
R5	15K			
R6	22K			
R7	1000Ω			
R8	100Ω			
R9	470K			
R10	47K			
R11	1meg			
R12	10000Ω			
R13	1000Ω			
R14	2.2meg			
R15	220K			
R16	68Ω			
R17	1000Ω			
R18	68Ω			
R19	100K			
R20	10K			
R21	15K			
R22	100K			
R23	100K			
R24	33K			
R25	33K			
R26	180K			
R27	56K			
R28	22K			
R29	1meg			
R30	22meg			
R31	3.3meg			
R32	1000Ω			
R33	1000Ω			
R34	68Ω			
R35	180K			
R36	56K			
R37	330Ω 2W			
R38	330Ω 2W			

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DUMONT PART No.	REPLACEMENT DATA
K1	AM Diode RF Filter	150mmf, 150mmf, 47K	923096	Aerovox PA-98 Centralab PC-51 Sprague D-2

COILS (RF-IF)

ITEM No.	USE	DUMONT PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	NOTES
L1	RF Choke(.24uh)	705032 ①		4584	RTC-8512	T957	① IRC Part #CLA
L2	RF Choke(3.3uh)	705034	BC-564	9310-24	RTC-8518	T816	
L3	FM RF	713043					
L4	FM Mixer	713042					
L5	FM Osc.	716124					
L6	RF Choke (1uh)	705033 ①	BC-561	4602	RTC-8515	T855	
L7	RF Choke(3.3uh)	705034	BC-564	9310-24	RTC-8518	T816	
L8	1st FM IF	720326	FM-254	1463	RTC-8599	T633	
L9	2nd FM IF	720327	FM-254	1463	RTC-8599	T633	
L10	3rd FM IF	720327	FM-254	1463	RTC-8599	T633	
L11	Discriminator	708374	FM-253	1464	RTC-8665	T634	
L12	Loopstick	700155	BC-419	705-A		T532	
L13	AM Osc.	716122	BC-393	69-OSC	RTC-8646	T504	
L14	1st AM IF	720075	BC-352	12-C1	RTC-8632	T607	
L15	2nd AM IF	720075	BC-353	12-C2	RTC-8633	T608	

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	DUMONT PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	117V ⓐ .35A	125V ⓐ .055A DC Tap ⓐ 6.3V ⓐ 3A		730089					

POWER RECTIFIERS

ITEM No.	RATING CURRENT (Measured)	DUMONT PART No.	RCA PART No.	SARKES TARZIAN PART No.	NOTES
M1	.055A	817083 †	1N1763 ‡	100 †	† Selenium ‡ Silicon

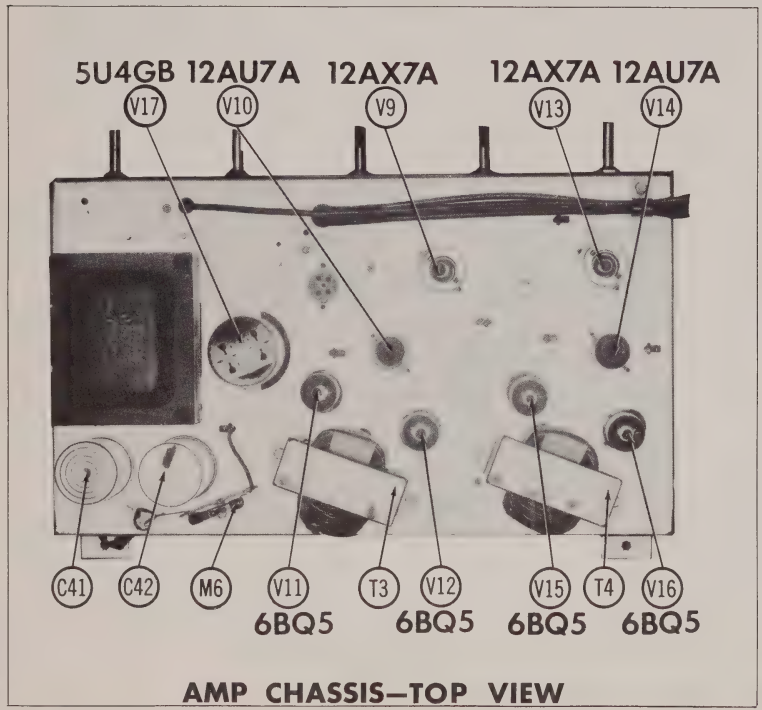
TUNER PARTS LIST AND DESCRIPTIONS (Continued)

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		DUMONT PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	1N541	817085		1N295	AM Detector

MISCELLANEOUS

ITEM No.	PART NAME	DUMONT PART No.	NOTES
M3	Tuning Cap.	900193	FM
M4	Tuning Cap.	900194	AM (Ant. 11—228mmf, Osc. 12—115mmf)
M5	Switch	510164	AFC (Push-Pull Type SPST)



AMP CHASSIS—TOP VIEW

AMP PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
	• GENERAL ELECTRIC • RAYTHEON • SYLVANIA •				
V9	Left Channel AF Amp.	12AX7A	V14	Right Channel AF Amp. - Phase Inverter	12AU7A
V10	Left Channel AF Amp. - Phase Inverter	12AU7A	V15	Right Channel Output	6BQ5 (EL84/6BQ5)*
V11	Left Channel Output	6BQ5 (EL84/6BQ5)*	V16	Right Channel Output	6BQ5 (EL84/6BQ5)*
V12	Left Channel Output	6BQ5 (EL84/6BQ5)*	V17	Rectifier	5U4GB
V13	Right Channel AF Amp.	12AX7A			

* Alternate

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DUMONT PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C41A	▱40	400	925483	AFH3-142	C1090		FP238	TMT-3658	TVL-3755
B	▱40	400					TC3501		
C	▲100	50							
C42A	▱40	400	925484	AFH3-142	C1090		FP238	TMT-3658	TVL-3755
B	▱20	400					TC3501		
C	▲100	50							
C43	100	15	925485	PRS1200	BBR100-15	QT1-22	TC2501	TD-100-15	TVA-1160
C44	100	15	925485	PRS1200	BBR100-15	QT1-22	TC2501	TD-100-15	TVA-1160
C45	4	25NP	925507	PRS7405	BBR4-150	NPQT-1	TCN504		TVANS-1202.2*
C46	4	25NP	925507	PRS7405	BBR4-150	NPQT-1	TCN504		TVANS-1202.2*

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C47	.0022		BPD-0022	DD-222	BYA10D22	CCD-222	B-222	5HK-D22
C48	10 N750 10%		N750-DI 10	DTN-10	C10Q1U	CCTN-100	CN7-410	10TCU-Q10
C49	.01 200V		P288N-01	D6-103	CUB4S1	4DP-1-103	GEM-201	4TM-S10
C50	.033 400V		P488N-033	DD-303	CUB6S33	4DP-2-333	GEM-4133	6TM-S33
C51	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C52	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C53	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C54	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C55	.0022		BPD-0022	DD-222	BYA10D22	CCD-222	B-222	5HK-D22
C56	10 N750 10%		N750-DI 10	DTN-10	C10Q1U	CCTN-100	CN7-410	10TCU-Q10
C57	.01 200V		P288N-01	D6-103	CUB4S1	4DP-1-103	GEM-411	4TM-S10
C58	.033 400V		P488N-033	DD-303	CUB6S33	4DP-2-333	GEM-4133	6TM-S33
C59	.1 400V		P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C60	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C61	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C62	.047 400V		P488N-047	DD-503	CUB4S47	4DP-3-473	GEM-4147	4TM-S47
C63	.022 600V		P488N-022	DD-203	CUB6S22	6DP-2-223	GEM-6122	6TM-S22

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			DUMONT PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R39A	Loudness, Left Channel	2meg*	390609	BT-174, STR-174, or (ABT-174, STR-174, AK-7)			FA26T55, RU26T55, CS3500
B	Loudness, Right Ch.	2meg*					
R40A	Treble, Left Channel	500K**	390608	BT-65, STR-65, or (ABT-65, STR-65, AK-7)			FA55T254, RU55T254, CS3500
B	Treble, Right Channel	500K**					
R41A	Bass, Right Channel	1meg	390606	B-69, SR-69, or (AB-69, SR-69, AK-7)	AD47-1meg-S/FS-3		FA16L, RU16L, CS3500
B	Bass, Left Channel	1meg					
R42	Balance	500K	390638	B-59, or (AB-59, AK-9)	A47-500K-S/RS-2	Q11-133, or (BU-2, CF16, SS2, DC1) †	U50

* Tap at 450K.
† "SNAPTROL".
** Tap at 250K.

DUMONT CHASSIS 120522B, 120523B

AMP PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	WORKMAN TV PART No.	REMARKS
R43	6.8meg			
R44	47K			
R45	1.8meg			
R46	100K			
R47	1000Ω			
R48	100K			
R49	47K			
R50	180K			
R51	4700Ω			
R52	220K			
R53	100K			
R54	100K			
R55	470K			
R56	470K			
R57	130Ω 5W	PW5-130	5W-SQ-130	
R58	1000Ω			
R59	18K			
R60	39Ω			
R61	6.8meg			
R62	47K			

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	WORKMAN TV PART No.	REMARKS
R63	1.8meg			
R64	100K			
R65	1000Ω			
R66	100K			
R67	180K			
R68	4700Ω			
R69	220K			
R70	100K			
R71	100K			
R72	470K			
R73	470K			
R74	130Ω 5W	PW5-130	5W-SQ-130	
R75	1000Ω			
R76	18K			
R77	39Ω			
R78	680Ω 2W			
R79	4700Ω 1W			
R80	27Ω			
R81	27Ω			

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	DUMONT PART No.	REPLACEMENT DATA
K2	Tone Comp.	330mmf, .0047mfd, .0047mfd, 1000Ω, 100K, 100K, 120K	923043	
K3	Tone Comp.	330mmf, .0047mfd, .0047mfd, 1000Ω, 100K, 100K, 120K	923043	

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	SEC. 1	SEC. 2	REPLACEMENT DATA: DUMONT PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	117V@ 1.15A	600VCT @.170A DC	5V@ 3A	730090					
	SEC. 3	SEC. 4	SEC. 5						
	6.3V@ 4.3A								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE: PRI.	SEC.	REPLACEMENT DATA: DUMONT PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T3	6700Ω CT	6-8Ω	734184	A-2905	A-3870①	24S16	S-57Z①	① Drill New Mounting Hole(s).
T4	6700Ω CT	6-8Ω	734184	A-2905	A-3870①	24S16	S-57Z①	

SPEAKER

ITEM No.	TYPE: SIZE	FIELD	V. C. IMP.	REPLACEMENT DATA: DUMONT PART No.	QUAM PART No.	NOTES
SP1	10"	PM	6-8Ω	180232	10A6PA	
SP2	5"	PM	14-16Ω	180233	5AlRZ16	
SP3	3 1/2"	PM	6-8Ω	180234	3A15TZ6.6	
SP4	10"	PM	6-8Ω	180232	10A6PA	
SP5	5"	PM	14-16Ω	180233	5AlRZ16	
SP6	3 1/2"	PM	6-8Ω	180234	3A15TZ6.6	

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA: DUMONT PART No. FUSE	DUMONT PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	BUSS PART No. FUSE	BUSS PART No. HOLDER
M6	3AG	1 1/2A 125V S/B P/T			315.500 (3AG 1 1/2A 125V S/B P/T)		MDV 1 1/2	

PHONO CARTRIDGE & NEEDLES

*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	REPLACEMENT DATA: DUMONT PART No. CARTRIDGE	DUMONT PART No. NEEDLE*	ASTATIC PART No. CARTRIDGE	ASTATIC PART No. NEEDLE*	ELECTRO-VOICE PART No. CARTRIDGE	ELECTRO-VOICE PART No. NEEDLE*	SONOTONE PART No. CARTRIDGE	SONOTONE PART No. NEEDLE*	NOTES
M7	962728	962723*	13TBX	Not Req.	26SD	2604D*	8TA4-SD	N-8TA-SD*	
						2605*			

MISCELLANEOUS

ITEM No.	PART NAME	DUMONT PART No.	NOTES
M8	Switch	510165	Function Selector (Rotary Wafer Type)
M9	Switch	510179	Power Off-On (Push-Pull Type SPDT)

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Dial Glass	520296	
Knob	461302	FM-AM Tuning
Knob	461298	Loudness, Bass, Treble, Function
Knob	461294	Balance
Knob	461303	Power On-Off
Knob	963119	Phono Speed Control
Cabinet	141129	Walnut, Model Bel-Air "300"
Cabinet	141128	Mahogany, Model Douglas "300"
Cabinet	141130	Fruitwood, Model D'Orsay "300"

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord ..... Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7 1/2 Ft. Length)

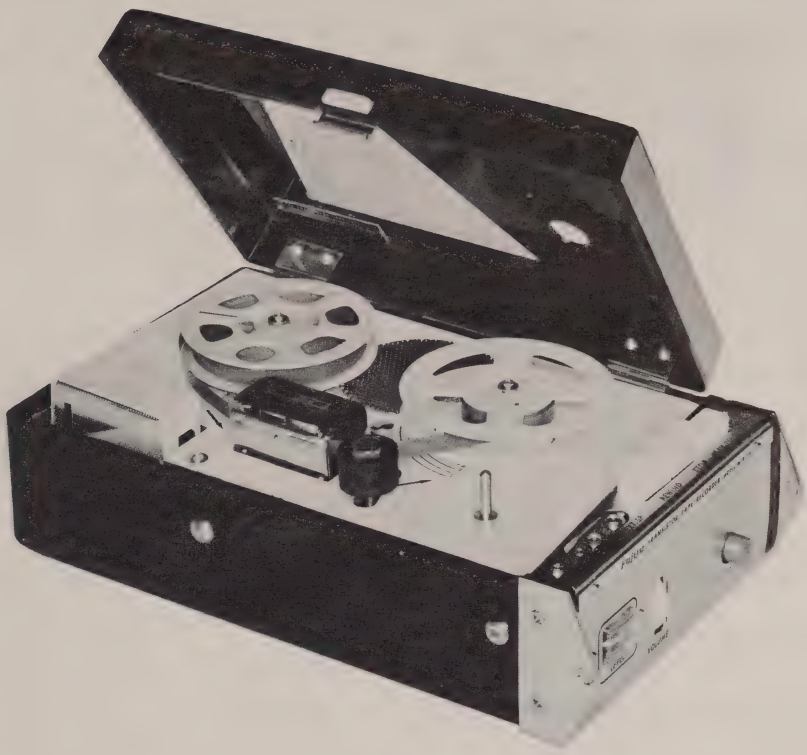
Low-Loss Shielded Lead (Interconnecting) ..... Use BELDEN No. 8401

Phono Pick-up Arm Cable ..... Use BELDEN No. 8430 (Two Conductor - Twisted)

PHOTOFACT® Folder with CIRCUITRACE®

FUJIYA MODEL
MTR252

FUJIYA MODEL
MTR252



FUJIYA MODEL
MTR252

GENERAL INFORMATION

The Fujiya Model MTR-252 is a two-speed, dual-track, battery powered tape recorder. It will take reels up to three inches in diameter.

A level meter is provided for telling the condition of the motor batteries and recording level.

Pushbuttons are provided for each mode of operation; Rewind, Stop, and Play-Record.

Speed change is accomplished by removing the large diameter capstan.

The two tape speeds are 1 7/8 and 3 3/4 ips. The playing or recording time for a 300 ft. reel at 3 3/4 ips is 28 minutes and at 1 7/8 ips is 56 minutes.

Supplied By:

Fujiya Corporation, Ltd.
Suite 3202, Chrysler Building
405 Lexington, Avenue,
New York 17, New York

SET 571 FOLDER 9

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America

CQ482

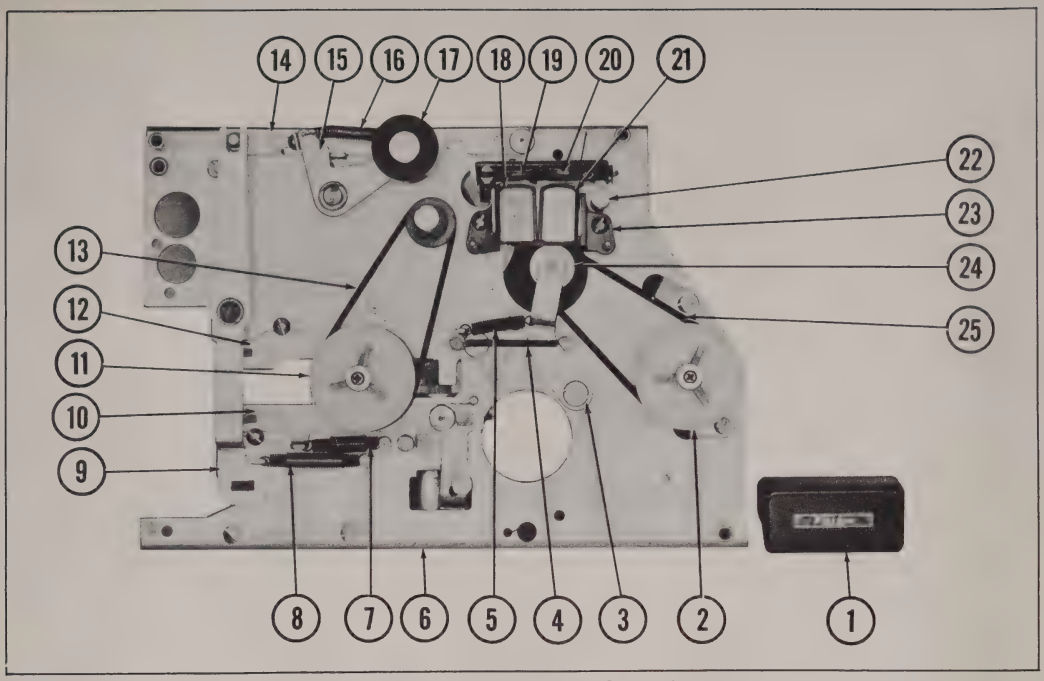


FIG.1 TOP VIEW OF MECHANISM

PREPARING FOR OPERATION

1. Install 6 penlight type batteries in each case in the battery compartment.
2. Remove the accessories from the storage compartment.

FUNCTION OF CONTROLS AND JACKS

Stop

Depressing the Stop button will stop the mode of operation and remove the power to the amplifier and motor.

Rewind

Depressing this button will rewind the tape onto the supply reel.

Play-Record

This control has two functions. Depressing the button with the record button pushed in places the recorder in the record mode. Depressing the button but leaving the record button out, places the recorder in the play mode.

Record

This button must be pushed in and held until the Play-Record button is depressed to make a recording. It serves as a safety lock during playback to prevent accidental erasure.

Volume

Rotating the knob in the direction of the arrow, increases the volume level. Rotation in the opposite direction, decreases the volume.

Level Meter

The level meter has two functions:

1. It serves as a recording level indicator while recording.
2. It indicates the condition of the batteries.

External Speaker

A patch cord may be plugged into the jack and the other end connected to the voice coil terminals of an external speaker. Earphones may be plugged into this jack also.

Microphone

The mic jack has two functions. The first function is to make a recording. Secondly, the microphone is equipped with a switch so the power to the motor can be cut off or on, at any time, during a recording.

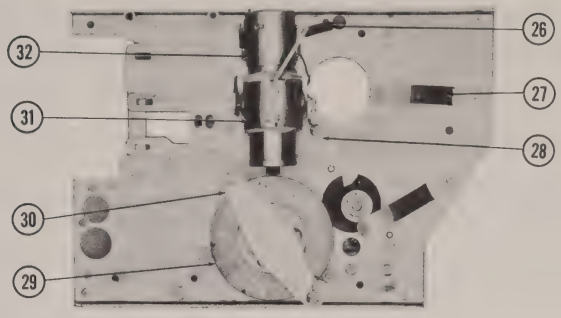


FIG.2 BOTTOM VIEW OF MECHANISM

OPERATING INSTRUCTIONS

Threading the Tape

1. Depress the stop button.
2. Open the lid.
3. Unwind about 14 inches of tape from a full reel and place the reel on the supply spindle.
4. Place an empty reel on the take-up spindle.
5. Hold a section of tape taut and insert it in the tape slot.
6. Insert the free end of the tape into one of the three slots in the take-up reel. Turn the reel a few turns to secure the tape to the reel and to take up all slack between reels.

Recording

1. Thread the tape, see "Threading the Tape".
2. Plug the microphone into the microphone jack.
3. Make sure the motor control switch on the microphone is in the "Off" position.
4. Depress the record safety button and the play-record button.
5. Depress the motor control switch on the microphone and slide it to the "On" position.
6. Talk into the microphone in a normal manner and adjust the volume control until the needle of the level meter is between the red and white range. This gives the correct volume level for recording.
7. To stop the tape motion temporarily, slide the motor control switch to "Off".
8. To stop the recorder, depress the Stop push-button.

Playback

1. Thread the tape, see "Threading the Tape".
2. Depress the Play-Record button.
3. Adjust the Volume control.
4. If earphones are used, plug them into the external speaker jack. The self-contained speaker is disconnected when the earphones are plugged in.
5. If the microphone is plugged in during playback, the motor control switch can be used to start and stop the tape motion.

To Erase a Recording

The tape is automatically erased when making a recording. If it is desired to erase a tape without putting new material on it, proceed as described under Recording, but, turn the Volume control to its minimum position.

Dual-Track Recording

Dual-track recordings are made on one-half of the tape at a time. After making a recording, and tape is wound onto the take-up reel, remove the reels. Turn the full reel over, place on the supply spindle, rethread the tape, and continue the recording.

External Speaker

Plug a patch cord into the external speaker jack and connect the other end to the voice coil of the external speaker. The self-contained speaker is disconnected when the patch cord is plugged into the external speaker jack.

Speed Change

Speed change is accomplished by changing the capstan diameter. The larger diameter is the 3 3/4 speed. To change to 1 7/8 speed, remove the knurled screw and remove the larger diameter capstan bushing.

DISASSEMBLY

To Remove the Recorder from the Case

1. Remove pressure roller (17).
2. Remove head cover (1).
3. Remove pushbutton escutcheon.
4. Remove two screws holding the top dress plate. Lift top dress plate up, unsolder the speaker wires, and remove the top dress plate.
5. Remove two screws from the front and back of the case and one from the storage compartment.
6. Lift recorder out of case.
7. Disconnect the level meter leads.
8. Reverse the foregoing procedure to reassemble.

To Remove Amplifier from Tape Transport

1. Remove the input and output jacks.
2. Disconnect the play-record and erase heads.
3. Remove one screw and one stud holding the push-button assembly.
4. Remove four screws holding the printed board to the tape transport.
5. Disconnect the motor leads.
6. Remove three screws holding the battery terminals.
7. Remove all clamps holding any leads.
8. To reassemble, reverse the foregoing procedure.

TROUBLE CHART

Symptom	Cause	Remedy
No takeup during record or playback.	1. Takeup drive belt (13) broken. 2. Felt clutch defective. 3. Clutch tension spring weak or broken.	1. Replace. 2. Replace clutch assembly under takeup reel (11). 3. Replace cutch tension spring.
No rewind.	1. Rewind idler tension spring (5) off or broken. 2. Rewind drive belt (25) off or broken.	1. Replace rewind idler tension spring (5). 2. Replace rewind drive belt (25).
Pressure roller does not engage the capstan when play-record button is depressed.	1. Pressure roller tension spring (16) off or broken.	1. Replace pressure roller tension spring (16).
Motor does not disengage the flywheel when the stop button is depressed.	1. Stop lever tension spring (7) off or broken.	1. Replace stop lever tension spring (7).
No record or playback.	1. Play-record head (19) defective. 2. Defective amplifier.	1. Replace play-record head (19). 2. Check amplifier for defective components.
Does not erase.	1. Defective erase head (21). 2. Broken wire going to the erase head. 3. Slide switch on printed board defective.	1. Replace erase head (21). 2. Check wires and replace any broken ones. 3. If switch is defective, replace.
Motor runs but flywheel and capstan does not rotate.	1. Motor tension spring (26) off or broken.	1. Replace motor tension spring (26).
Motor does not run and amplifier is dead.	1. Batteries are defective.	1. Replace batteries with ones known to be good.
Pressure pads do not make firm contacts with the heads.	1. Pressure pad tension spring broken.	1. Replace pressure pad tension spring.

CLEANING

The play-record head (18), erase head (21), pressure roller (17), tape guides, and capstan are subject to tape residue which is worn off the tape as it passes these parts. Use a soft cloth and alcohol to clean these parts.

Use a soft cloth and alcohol to clean oil or grease from the pressure roller (17), rewind idler wheel (24), and drive belts.

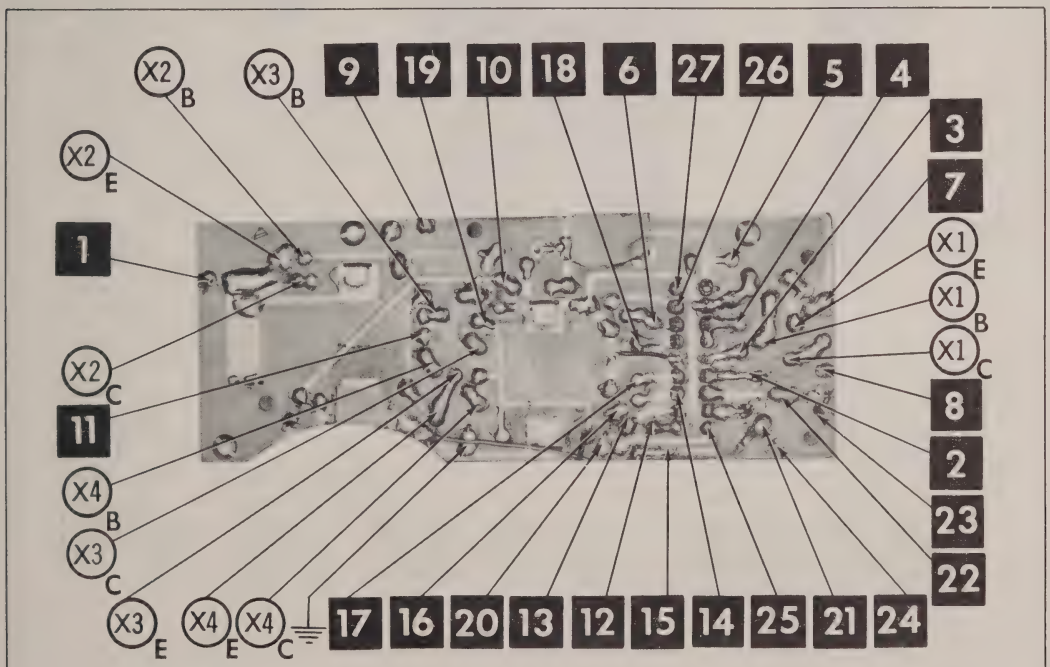
LUBRICATION

All rotating parts are provided with oilite bearings. They are factory lubricated and should require no further lubrication. If lubrication is required, use light weight oil sparingly.

MECHANICAL PARTS LIST

Ref. No.	Description
1	Head Cover
2	Supply Reel
3	Rewind Idler Lever
4	Rewind Lever Tension Spring
5	Rewind Idler Lever Tension Spring
6	Base Plate
7	Stop Lever Tension Spring
8	Record Lever Tension Spring
9	Record Lever
10	Stop Lever
11	Takeup Reel
12	Rewind Actuating Lever
13	Takeup Drive Belt
14	Pressure Roller Actuating Lever
15	Pressure Roller Lever
16	Pressure Roller Tension Spring

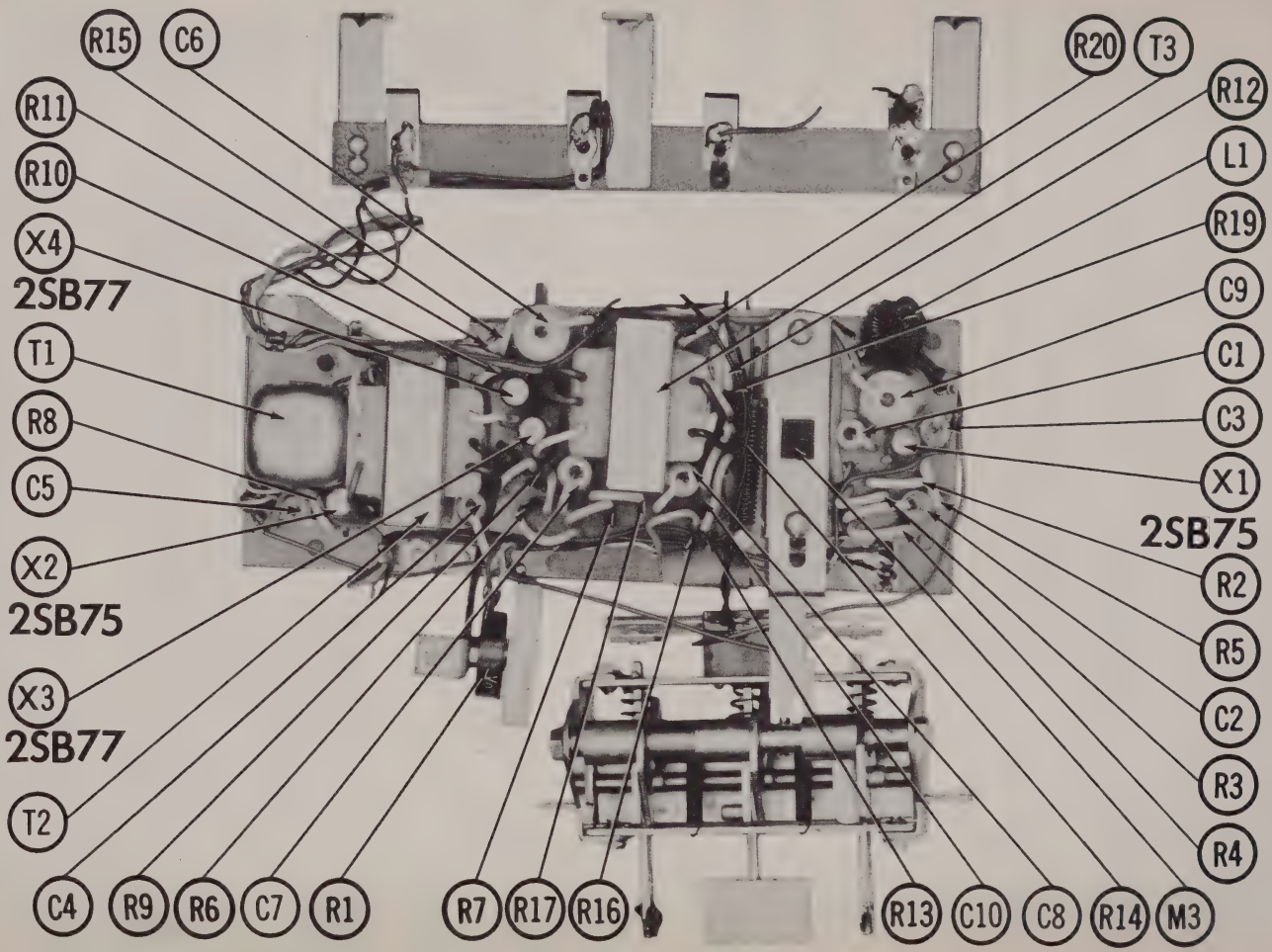
Ref. No.	Description
17	Pressure Roller
18	Play-Record Head
19	Play-Record Head Pressure Pad
20	Erase Head Pressure Pad
21	Erase Head
22	Tape Guide
23	Head Mounting Plate
24	Rewind Idler Wheel
25	Rewind Drive Belt
26	Motor Tension Spring
27	Battery Holder Tension Spring
28	Motor Mounting Bracket
29	Flywheel and Capstan
30	Flywheel and Capstan Mounting Plate
31	Motor Mounting Housing
32	Motor



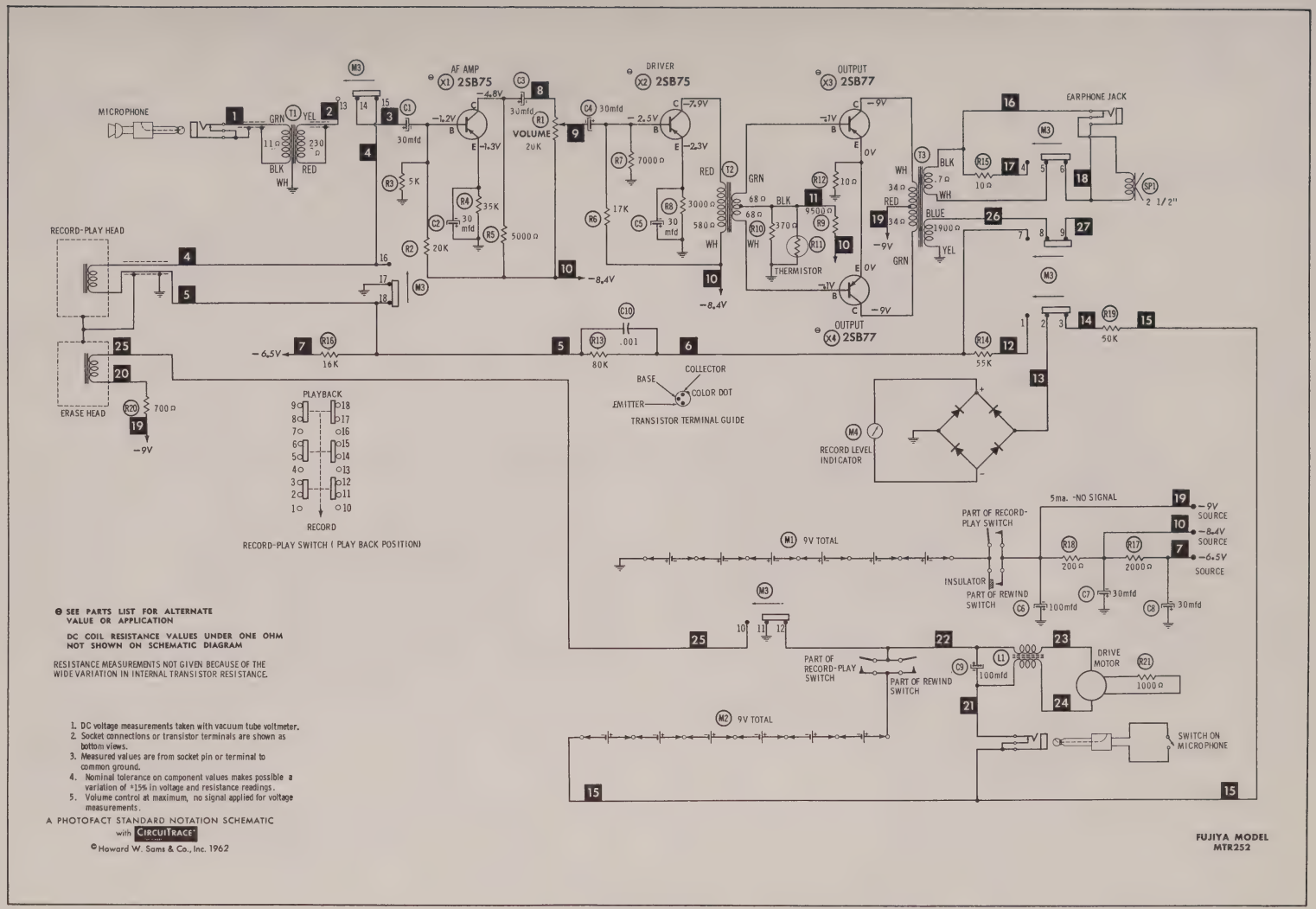
PRINTED BOARD

FUJIYA MODEL MTR252

FOLDER 9



AMP CHASSIS-TOP VIEW



⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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FUJIYA MODEL MTR252

FUJIYA MODEL MTR252

ELECT. PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: RAYTHEON PART No.	NOTES
X1	2SB75	AF Amplifier	2N406		PNP
	2N215 *	AF Amplifier			PNP * Alternate Type
X2	2SB75	Driver	2N406		PNP
	2N215 *	Driver			PNP
X3	2SB77	Output	2N408		PNP
	2N217 *	Output			PNP
X4	2SB77	Output	2N408		PNP
	2N217 *	Output			PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING: CAP.	RATING: VOLT.	FUJIYA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	30	6		PTT27	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C2	30	6		PTT27	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C3	30	6		PTT27	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C4	30	6		PTT27	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C5	30	6		PTT27	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C6	100	10		PTT46	NLW100-12	MT1-19	TT15X100	MLV100-10	TE-1119.3
C7	30	10		PTT43	NLW30-15	MT1-14	TT15X30	MLV25-10	TE-1158
C8	30	10		PTT43	NLW30-15	MT1-14	TT15X30	MLV25-10	TE-1158
C9	100	10		PTT46	NLW100-12	MT1-19	TT15X100	MLV100-10	TE-1119.3

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA: AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	.001		SI 1000	D6-102	BYA10D1	CCD-102	B-210	5HK-D10

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA: FUJIYA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	20K					

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: WORKMAN TV PART No.	REMARKS
R2	20K			
R3	5000Ω			
R4	35K			
R5	5000Ω			
R6	17K			
R7	7000Ω			
R8	3000Ω			
R9	9500Ω			
R10	370Ω			
R11	Thermistor			

ITEM No.	RATING	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: WORKMAN TV PART No.	REMARKS
R12	10Ω			
R13	80K			
R14	55K			
R15	10Ω			
R16	16K			
R17	2000Ω			
R18	200Ω			
R19	50K			
R20	700Ω			
R21	1000Ω			

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA: FUJIYA PART No.	REPLACEMENT DATA: Merit PART No.	REPLACEMENT DATA: Miller PART No.	REPLACEMENT DATA: Stancor PART No.	REPLACEMENT DATA: Workman TV PART No.	NOTES
L1	Motor Choke						

TRANSFORMER (MIC)

ITEM No.	TURNS RATIO: PRI.	TURNS RATIO: SEC.	REPLACEMENT DATA: FUJIYA PART No.	REPLACEMENT DATA: Merit PART No.	REPLACEMENT DATA: Stancor PART No.	REPLACEMENT DATA: Thordarson PART No.	REPLACEMENT DATA: Triad PART No.	NOTES
T1	1	7.8						

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO: PRI.	TURNS RATIO: SEC.	REPLACEMENT DATA: FUJIYA PART No.	REPLACEMENT DATA: Merit PART No.	REPLACEMENT DATA: Stancor PART No.	REPLACEMENT DATA: Thordarson PART No.	REPLACEMENT DATA: Triad PART No.	NOTES
T2	1	1						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE: PRI.	IMPEDANCE: SEC.1	REPLACEMENT DATA: FUJIYA PART No.	REPLACEMENT DATA: Merit PART No.	REPLACEMENT DATA: Stancor PART No.	REPLACEMENT DATA: Thordarson PART No.	REPLACEMENT DATA: Triad PART No.	NOTES
T3	750Ω CT	6-8Ω SEC. 2 20K						

SPEAKER

ITEM No.	TYPE: SIZE	TYPE: FIELD	TYPE: V. C. IMP.	REPLACEMENT DATA: FUJIYA PART No.	REPLACEMENT DATA: QUAM PART No.	NOTES
SP1	2½"	PM	6-8Ω			

BATTERIES

ITEM No.	VOLTAGE	FUJIYA PART No.	REPLACEMENT DATA: BURGESS "A"	REPLACEMENT DATA: BURGESS "B"	REPLACEMENT DATA: EVEREADY "A"	REPLACEMENT DATA: EVEREADY "B"	REPLACEMENT DATA: MALLORY "A"	REPLACEMENT DATA: MALLORY "B"	NOTES
M1	1½V			930		1015		M-15R	6 Required (Amplifier)
M2	1½V			930		1015		M-15R	6 Required (Motor Drive)

MISCELLANEOUS

ITEM No.	PART NAME	FUJIYA PART No.	NOTES
M3	Switch		Record-Playback
M4	Meter		Record Level Indicator

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

PHOTOFACT® Folder with CIRCUITRACE®

**LAFAYETTE
MODEL FS-225**

LAFAYETTE
MODEL FS-225

LAFAYETTE
MODEL FS-225

TRADE NAME	Lafayette Model FS-225		
SUPPLIER	Lafayette Radio, 165-08 Liberty Ave., Jamaica 33, N. Y.		
TYPE SET	Battery Operated Transistorized Portable AM Receiver with Manual Record Player		
POWER SUPPLY	9 Volts DC	RATING	11MA @ 9 Volts DC (No Signal, Min. Volume — Radio)
TUNING RANGE—BROADCAST	540-1600KC		15MA @ 9 Volts DC (Signal, Normal Volume — Radio)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1, A2, A3..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

A4, A5..... GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520

A6..... GENERAL CEMENT #9440

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400% Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3	Adjust for maximum output.
2.	"	1600KC	1600KC	"	A4, A5	"
3.	"	600KC	600KC	"	A6, A7	Adjust for maximum output. A7 is adjusted by moving antenna coil turns along ferrite core. Repeat steps 2 and 3.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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LO043

SET 571 FOLDER 10

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA15	Converter	2N412		PNP
X2	2SA14	1st IF Amplifier	2N410		PNP
X3	2SA14	2nd IF Amplifier	2N410		PNP
X4	2SB75	AF Amplifier	2N406		PNP
X5	2SB75	Driver	2N406		PNP
X6	2SB77	Output	2N408		PNP
X7	2SB77	Output	2N408		PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	LAFAYETTE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	30	6		BCD6025	ECPB412	MT1-13	TT6X30	MLV30-6	VL-1092
C2	30	6		BCD6025	ECPB412	MT1-13	TT6X30	MLV30-6	VL-1092
C3	10	3		BCD3010	ECPB408	MT1-5	PET1340	MLV10-3	VL-1038
C4	5	6		BCD6005	ECPB405	MT1-3	TT6X5	MLV5-6	VL-1084
C5	5	6		BCD6005	ECPB405	MT1-3	TT6X5	MLV5-6	VL-1084
C6	50	3		BCD3050	ECPB15	MT1-15	PET1575	MLV50-3	VL-1045
C7	200	10		BCD10190	NLW200-12	MT1-23	TC1502	MLV200-10	TE-1119, 6
C8	200	10		BCD10190	NLW200-12	MT1-23	TC1502	MLV200-10	TE-1119, 6
C9	200	10		BCD10190	ECPB421	MT1-23	TC1502	MLV200-10	TE-1119, 6

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C10	5mmf		NPO-DI 5, 0	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C11	.01		BPD-01	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C12	.01		BPD-01	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C13	5mmf		NPO-DI 5, 0	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C14	5mmf		NPO-DI 5, 0	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C15	.02		BPD-02	DA-203	H-05S2	CCD-203	TA-120	TG-S20
C16	5mmf		NPO-DI 5, 0	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C17	.04							
C18	.01		BPD-01	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C19	.01		BPD-01	DM-103	H-05S1	CCD-103	TA-110	TG-S10
C20	.1		C80V104AM	DA-104	H-05P1		TA-010	TG-P10
C21	.04							

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			LAFAYETTE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	50K					

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	15K				R14	39K			
R3	3000Ω				R15	100Ω			
R4	3300Ω				R16	3000Ω			
R5	68K				R17	6800Ω			
R6	2200Ω				R18	27K			
R7	1000Ω				R19	1000Ω			
R8	5000Ω				R20	500Ω			
R9	2200Ω				R21	100Ω			
R10	47K				R22	500Ω			
R11	15K				R23	4200Ω			
R12	1meg				R24	5Ω			
R13	470K				R25	2000Ω			

(CONTINUED ON REAR PAGE)

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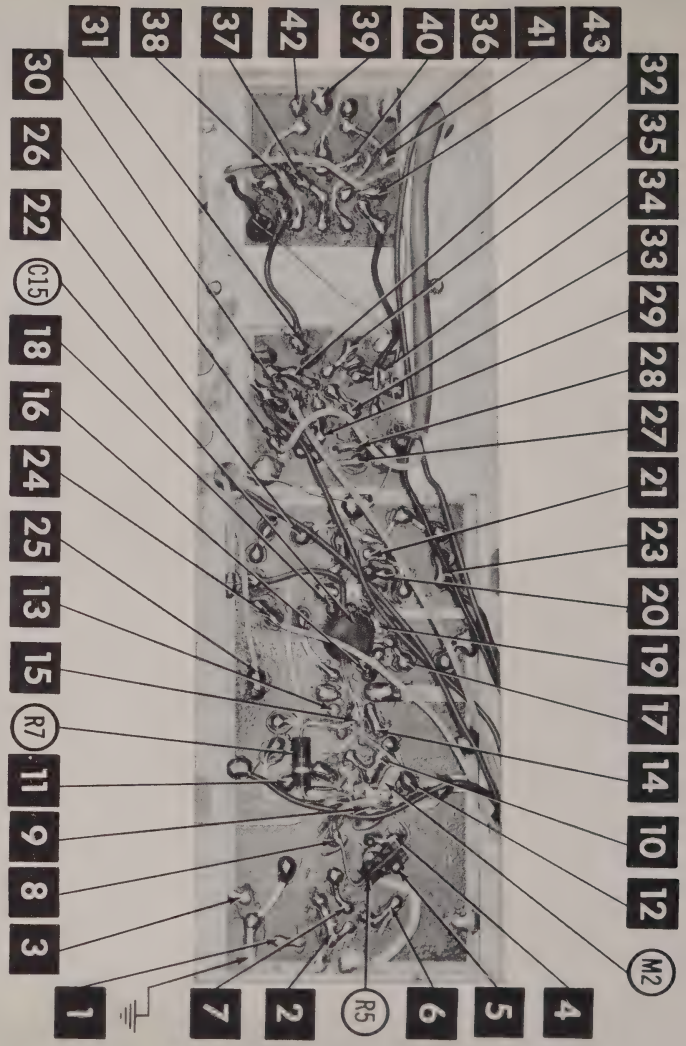

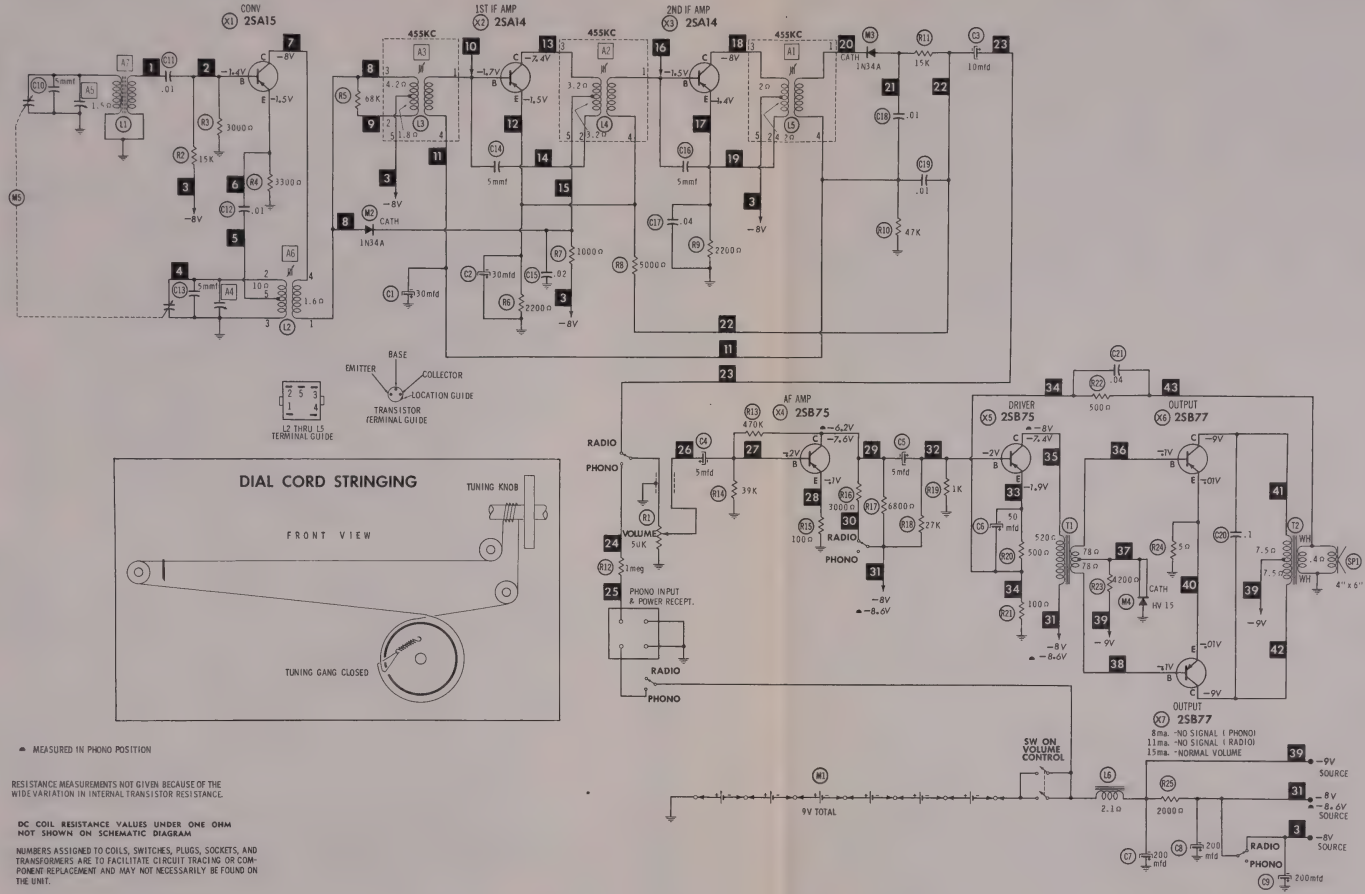

▲ MEASURED IN PHONO POSITION

RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE

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LAFAYETTE MODEL FS-225

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		LAFAYETTE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	Loopstick						
L2	Osc.						
L3	1st IF						
L4	2nd IF						
L5	3rd IF						

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ∿)	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L6	.015A	2.1Ω	45MH						

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1.4	1	TRT-18					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	LAFAYETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	800Ω CT	3-4Ω	TRT-19					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	LAFAYETTE PART No.	QUAM PART No.	
SP1	4"x 6"	PM	3-4Ω		46A15	

BATTERIES

ITEM No.	VOLTAGE	LAFAYETTE PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	1½V			930		1015		M-15R	6 Required

SIGNAL DIODES

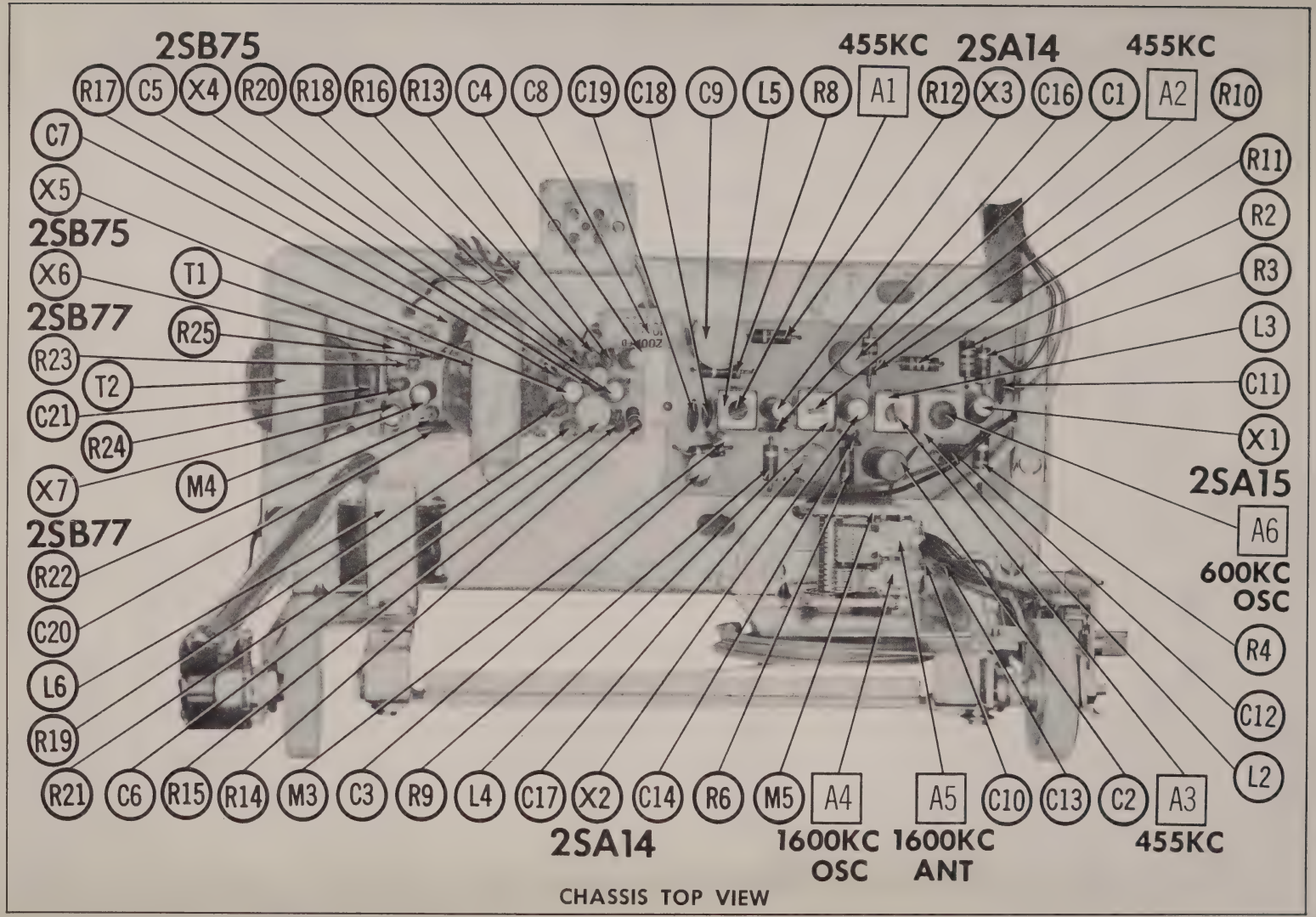
ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		LAFAYETTE PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	1N34A			1N34A	Overload
M3	1N34A			1N34A	Detector
M4	HV15				Output Bias Regulation

MISCELLANEOUS

ITEM No.	PART NAME	LAFAYETTE PART No.	NOTES
M5	Tuning Cap.		2 Gang

WIRING DATA

General-use Unshielded Hook-up Wire .....Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors



CHASSIS TOP VIEW

PHOTOFACT® Folder with CIRCUITRACE®

MATSUSHITA or PANASONIC MODEL T-50

MATSUSHITA or PANASONIC
MODEL T-50

MATSUSHITA or PANASONIC
MODEL T-50

TRADE NAME	Matsushita or Panasonic Model T-50
IMPORTER	Matsushita Electric Corp. of America, 41 E. 42nd Street, New York 17, N. Y.
TYPE SET	Battery Operated Transistorized Portable AM Receiver
POWER SUPPLY	6 Volts DC RATING 5 MA @ 6 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	540 — 1600KC 16MA @ 6 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1, A2, A3..... GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537

A4..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2537, 2538, 2534

A5..... GENERAL CEMENT #8282, 8606, 8606-L, 9091
WALSCO #2526, 2541, 2542, 2543, 2544

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400% Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3	Adjust for maximum output.
2.	"	1600KC	1600KC	"	A4	"
3.	"	600KC	600KC	"	A5	"
4.	"	1400KC	1400KC Signal.	"	A6	"
5.	"	600KC	600KC Signal.	"	A7	Adjust for maximum output by moving antenna coil turns aling ferrite core. Repeat steps 2 thru 5.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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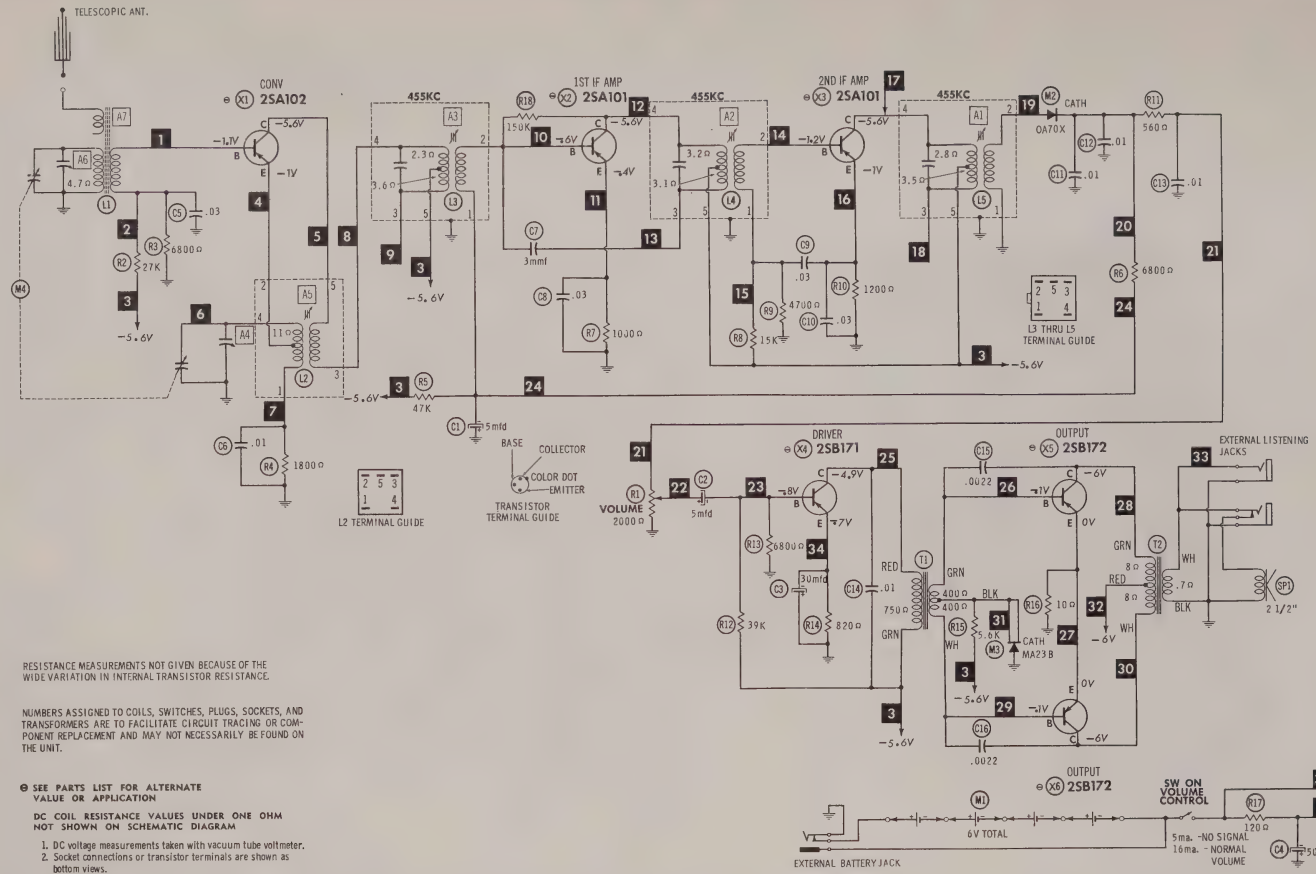
LF121

SET 571 FOLDER 11



RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE®

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MATSUSHITA or PANASONIC MODEL T-50

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA102	Converter	2N1527		PNP
	MC102*	Converter			PNP
X2	2SA101	1st IF Amplifier	2N1525		PNP
	MC101*	1st IF Amplifier			PNP
X3	2SA101	2nd IF Amplifier	2N1525		PNP
	MC101*	2nd IF Amplifier			PNP
X4	2SB171	Driver	2N406		PNP
	OC71*	Driver			PNP
X5	2SB172	Output	2N408		PNP
	OC72*	Output			PNP
X6	2SB172	Output	2N408		PNP
	OC72*	Output			PNP

* Alternate

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MATSUSHITA PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	5	3	NPA-3V5	BCD3005	ECPB405	MT1-3	TT6X5	MLV5-3	VL-1035
C2	5	3	NPA-3V5	BCD3005	ECPB405	MT1-3	TT6X5	MLV5-3	VL-1035
C3	30	3	NPA-3V30	BCD3025	ECPB113	MT1-13	PET130	MLV30-6	VL-1043
C4	50	6	NPA-6V50	BCD6050	ECPB115	MT1-15	PET1260	MLV50-6	VL-1094

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C5	.03				H-05S25		TA-125	TG-S30
C6	.01			DA-103	H-05S1		TA-110	TG-S10
C7	3		NPO-SI 3	TCZ-3R3	C10V3C	CCTO-3R3	CNO-533	10TCC-V33
C8	.03				H-05S25		TA-125	TG-S30
C9	.03				H-05S25		TA-125	TG-S30
C10	.03				H-05S25		TA-125	TG-S30
C11	.01			DA-103	H-05S1		TA-110	TG-S10
C12	.01			DA-103	H-05S1		TA-110	TG-S10
C13	.01			DA-103	H-05S1		TA-110	TG-S10
C14	.01			DA-103	H-05S1		TA-110	TG-S10
C15	.0022		BPD-0022	DD-222	BYA10D22	CCD-222	GP222	5HK-D22
C16	.0022		BPD-0022	DD-222	BYA10D22	CCD-222	GP222	5HK-D22

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			MATSUSHITA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Volume & Switch	2000Ω	SNVa-16				

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	27K				R11	560Ω			
R3	6800Ω				R12	39K			
R4	1800Ω				R13	6800Ω			
R5	47K				R14	820Ω			
R6	6800Ω				R15	5600Ω			
R7	1000Ω				R16	10Ω			
R8	15K				R17	120Ω			
R9	4700Ω				R18	150K			
R10	1200Ω								

PRINTED BOARD

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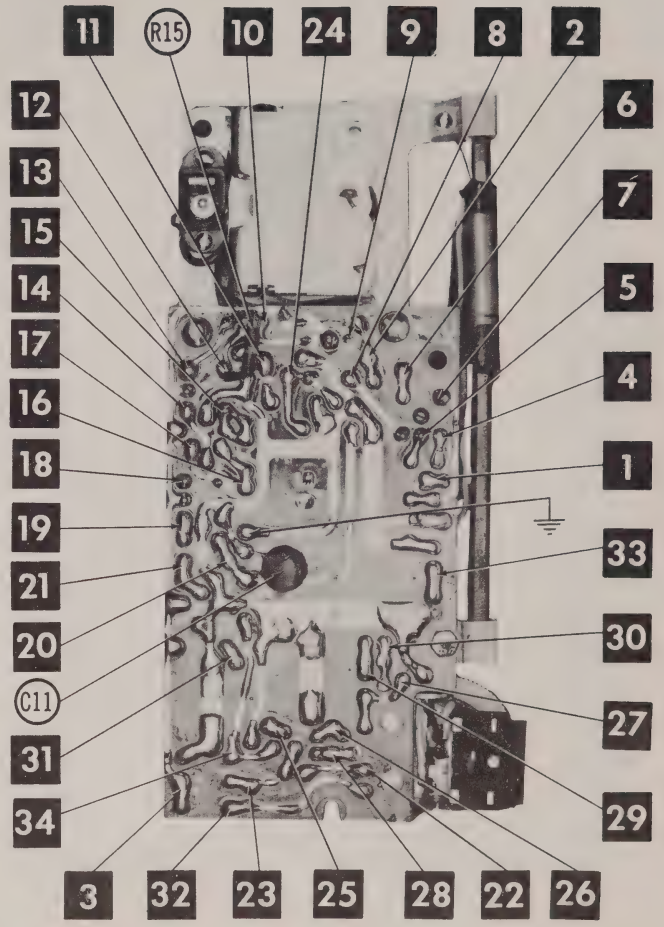


MATSUSHITA or PANASONIC
MODEL T-50

FOLDER 11

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA: MATSUSHITA PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	NOTES
L1	Loopstick	AM2011-G					
L2	Osc.	AOP_0-X					
L3	1st IF	$T1-Z_1D$					
L4	2nd IF	$T1-W_2$					
L5	3rd IF	$T1-W_4$					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO PRI.	TURNS RATIO SEC.	REPLACEMENT DATA: MATSUSHITA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	1.2	1	TT-23BS					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA: MATSUSHITA PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	400Ω CT	6-8Ω	TT-24S					

SPEAKER

ITEM No.	TYPE SIZE	TYPE FIELD	TYPE V. C. IMP.	REPLACEMENT DATA: MATSUSHITA PART No.	QUAM PART No.	NOTES
SP1	2 ½"	PM	6-8Ω	P-222SB		

BATTERIES

ITEM No.	VOLTAGE	MATSUSHITA PART No.	REPLACEMENT DATA: BURGESS "A"	BURGESS "B"	EVEREADY "A"	EVEREADY "B"	MALLORY "A"	MALLORY "B"	NOTES
M1	1 1/2V	UM-3A		930		1015		M-15R	4 Required

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA: MATSUSHITA PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	NOTES
M2	OA70X	OA70X		1N60	Detector-AVC
M3	MA23B				Output Bias Regulation

MISCELLANEOUS

ITEM No.	PART NAME	MATSUSHITA PART No.	NOTES
M4	Tuning Cap.	2XC-17 B29	2 Gang

CABINETS & CABINET PARTS

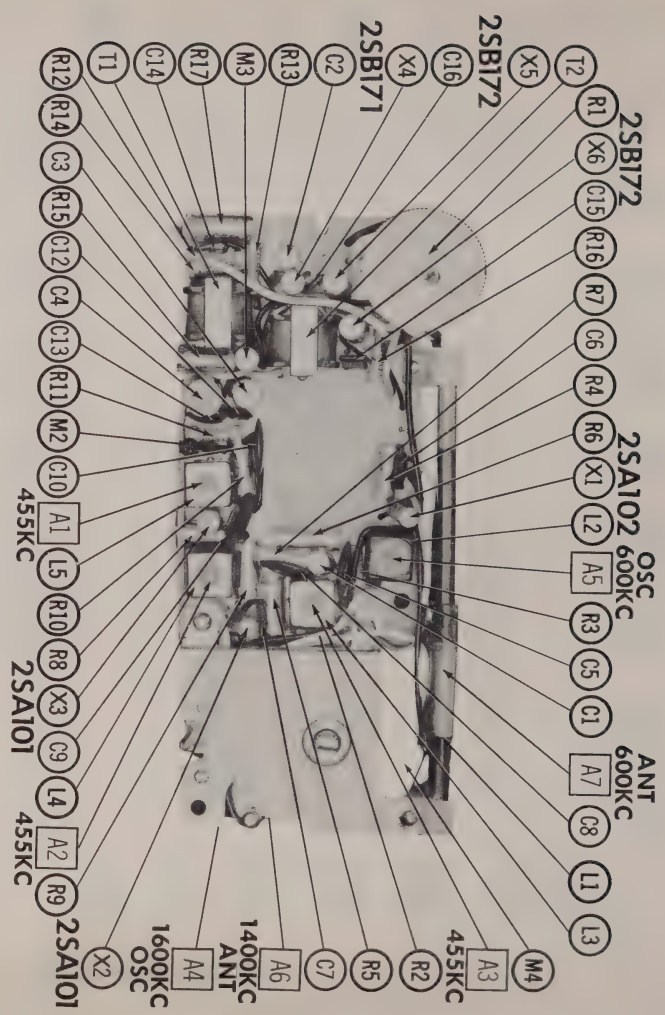
(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	T-50T	Tuning
Knob	T-50V	Volume
Cabinet	T-50 CAB.	Includes Back Cover

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

CHASSIS—TOP VIEW



PHOTOFACT® Folder with CIRCUITRACE®

OLYMPIC MODEL 554

OLYMPIC MODEL 554

OLYMPIC MODEL 554

TRADE NAME	Olympic Model 554
MANUFACTURER	Olympic, A Div. of the Siegler Corp., 34-01 38th Ave., Long Island City 1, N. Y.
TYPE SET	AC-DC Operated 5 Tube AM Receiver
POWER SUPPLY	105 - 120 Volts AC-DC RATING 25 Watts, .25 Amp. @ 117 Volts AC
TUNING RANGE	BROADCAST 530 - 1605KC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools: A1, A2, A3 .. GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537
A5, A6 ..... GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .1mfd to antenna stator lug of tuning gang (rear section). Low side to chassis.	455KC (400~ Mod.)	Tuning gang fully open	Across voice coil	A1, A2, A3	Adjust for maximum output.
2.	Loop	1600KC	1600KC	"	A4	"
3.	"	550KC	550KC Signal	"	A5	Adjust for maximum output by moving coil turns along ferrite core.
4.	"	1400KC	1400KC Signal	"	A6	Adjust for maximum output. Repeat steps 2, 3 and 4.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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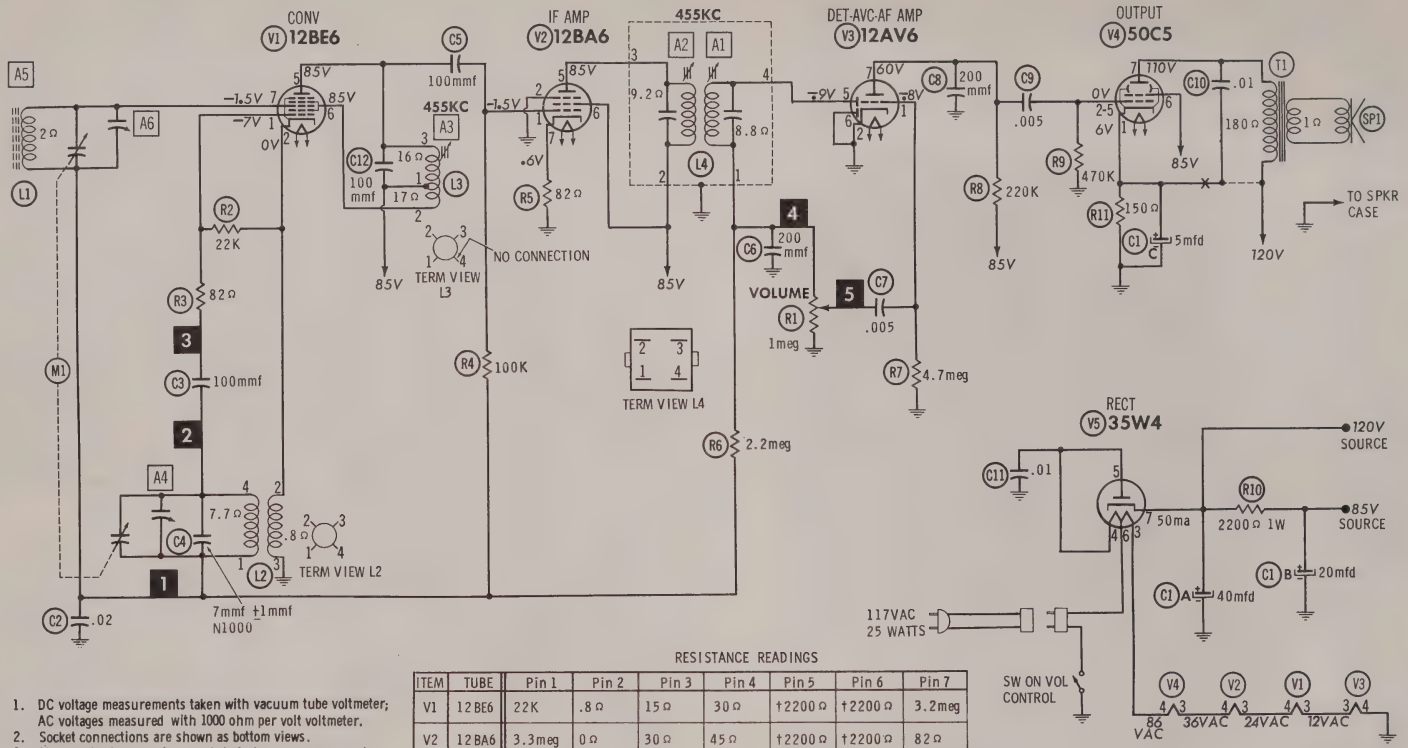
LG084

SET 571 FOLDER 12



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	12BE6	22K	.8Ω	15Ω	30Ω	†2200Ω	†2200Ω	3.2meg
V2	12BA6	3.3meg	0Ω	30Ω	45Ω	†2200Ω	†2200Ω	82Ω
V3	12AV6	4.7meg	0Ω	15Ω	0Ω	1meg	0Ω	†22K
V4	50C5	150Ω	470K	45Ω	100Ω	NC	†2200Ω	†180Ω
V5	35W4	NC	NC	100Ω	145Ω	145Ω	140Ω	¶ INF

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
† MEASURED FROM PIN 7 OF V5. NC NO CONNECTION

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

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OLYMPIC MODEL 554

PARTS LIST AND DESCRIPTIONS

TUBES

◆ GENERAL ELECTRIC ◆ RAYTHEON ◆ SYLVANIA ◆					
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	Converter	12BE6	V4	Output	50C5
V2	IF Amplifier	12BA6	V5	Rectifier	35W4
V3	Det. - AVC - AF Amp.	12AV6			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	OLYMPIC PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	A 40	150	COJ30708	PRS4400	BBRT4215C	QT3-3	TCT3114	TDLT-12	TVA-3422.9
B	B 20	150							
C	C 5	25							

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	.02 400V		P488N-02	DD-203	CUB4S2	4DP-2-203	GEM-412	4TM-S20
C3	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C4	7 N1000 ±1mmf					*		
C5	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C6	200		DI-200	DD-201	L10T2	CCD-201	GP320	10TS-T20
C7	.005		BPD-005	DD-502	BYA10D5	CCD-501	GP250	5HK-D50
C8	200		DI-200	DD-201	L10T2	CCD-201	GP320	10TS-T20
C9	.005		BPD-005	DD-502	BYA10D5	CCD-501	GP250	5HK-D50
C10	.01		BPD-01	DD-103	BYA10S1	CCD-103	GP110	5HK-S10
C11	.01		BPD-01	DD-103	BYA10S1	CCD-103	GP110	5HK-S10
C12	100		NPO-SI 100	D6-101	L10T1	CCD-101	GP310	10TS-T10

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			OLYMPIC PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch (Off-On)	1 meg	PTJ30710	B-70-S, or (AB-70, AK-29, KR-1)			

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	22K				R7	4.7meg			
R3	82Ω				R8	220K			
R4	100K				R9	470K			
R5	82Ω				R10	2200Ω 1W			
R6	2.2meg				R11	150Ω			

PRINTED BOARD

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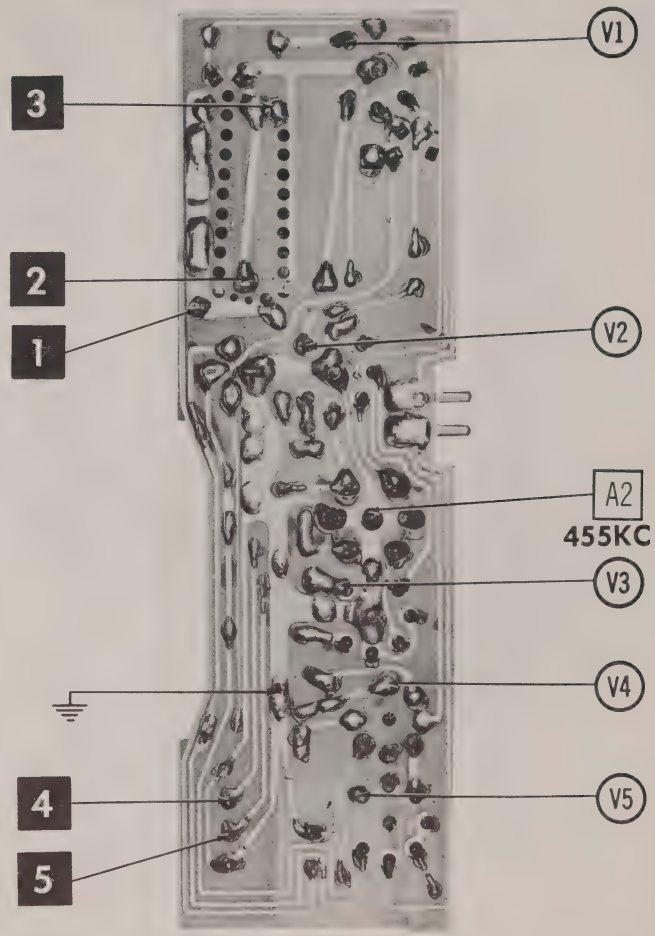
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED



PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		OLYMPIC PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1 L2 L3 L4	Loopstick Osc. Input IF Output IF	LPJ30711 CLJ30712 TRJ30713 TRJ30714	BC-419	705-A		T532	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	OLYMPIC PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	2200Ω	6-8Ω	TRJ30715			22S86	S-63X	

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	OLYMPIC PART No.	QUAM PART No.	
SP1	4"	PM	6-8Ω	SKJ30716	4A07Z8	

MISCELLANEOUS

ITEM No.	PART NAME	OLYMPIC PART No.	NOTES
M1	Tuning Cap.	CV2YD12	2 Gang (Alternate Part #CVJ30709)

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

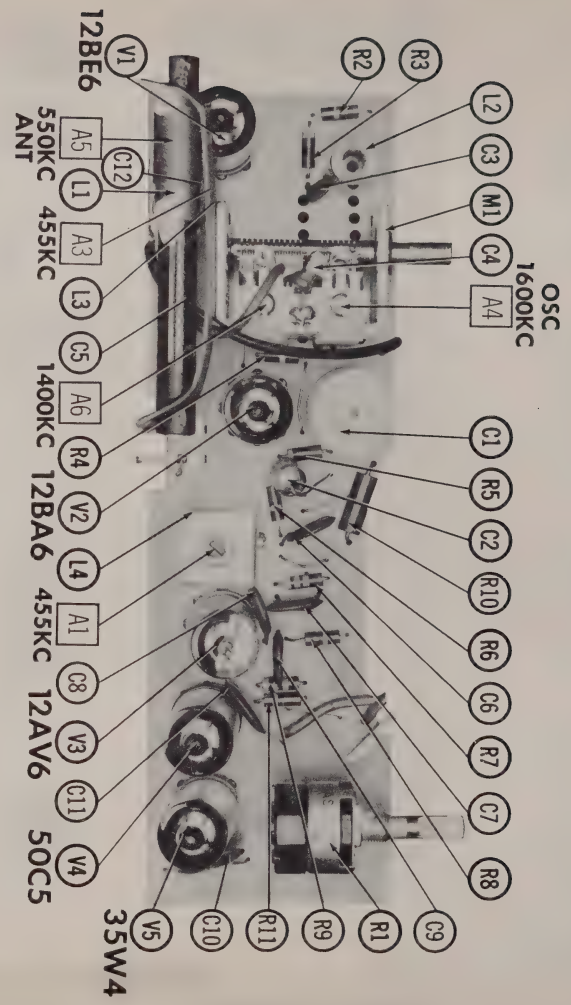
NAME	PART NO.	DESCRIPTION
Knob Knob Cabinet	KNJ30718 KNJ30719 CAJ30717	Tuning Volume

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

Power Cord (Interlock Type) ..... Use BELDEN No. 8874

CHASSIS—TOP VIEW



PHOTOFACT® Folder

SOUNDEX MODELS COM-60, COP-60, STM-059, STP-059

SOUNDEX MODELS COM-60, COP-60, STM-059, STP-059

MODEL STP-059

TRADE NAME	Soundex Models COM-60, COP-60 (For 1960 Corvairs) STM-059, STP-059 (For 1959 Studebaker Larks)
MANUFACTURER	Soundex Radio Co., 959 Commonwealth Ave., Boston 15, Mass.
TYPE SET	Battery Operated, 4-Tube — 2-Transistor, Custom-Built Automobile AM Receiver
POWER SUPPLY	12 Volt Storage Battery RATING 1.2 Amp. @12.6 Volts DC
TUNING RANGE—BROADCAST	540-1600KC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1, thru A4..... GENERAL CEMENT #5097, 8727
WALSCO #2515

A5, A6..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

A8, A9, A10..... GENERAL CEMENT #9050-L, 9150
WALSCO #2521, 2524

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .1mfd to pin 7 (grid) of Converter. Low side to chassis.	265KC (400% Mod.)	High end stop.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2.	Thru dummy (Fig. 1) to antenna receptacle.	1500KC	1500KC	"	A5, A6, A7	"
3.	"	600KC	600KC	"	A8, A9, A10	"
4.	With radio installed in car and antenna fully extended, tune in a weak station near 1400KC and adjust A7 for maximum output.					

PUSHBUTTON ADJUSTMENT

1. Tune manually to desired station.
2. Pull pushbutton out, then press in firmly.
3. Repeat for remaining pushbuttons.

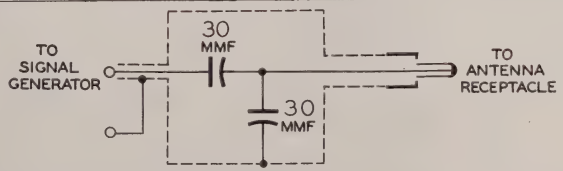


FIG. 1

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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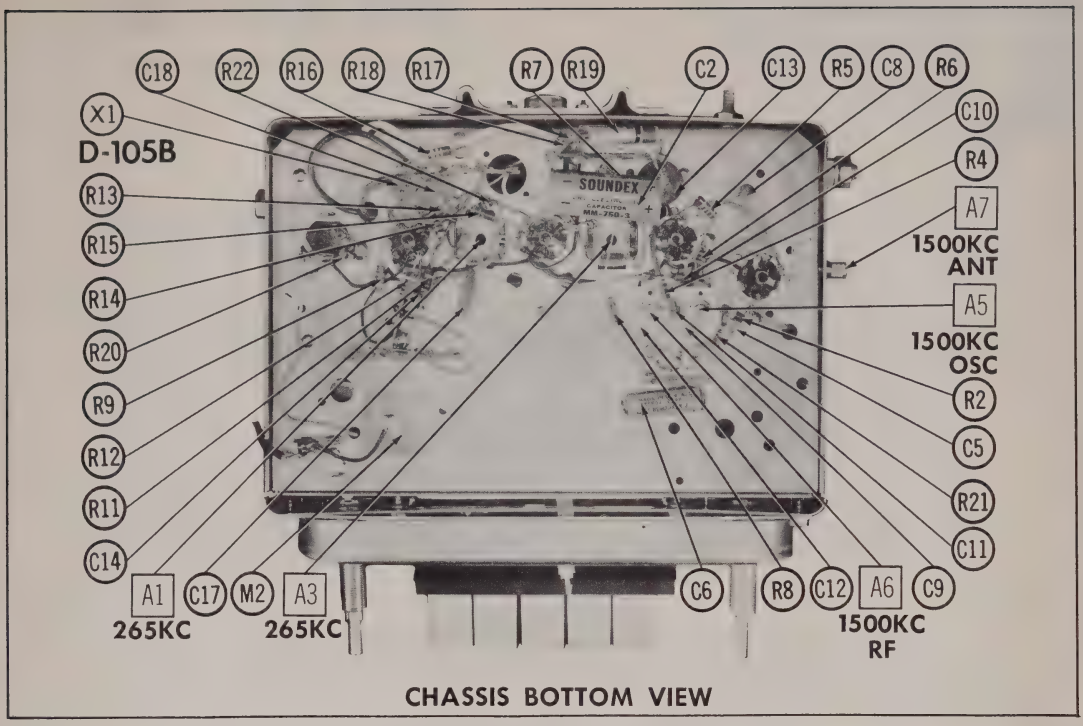
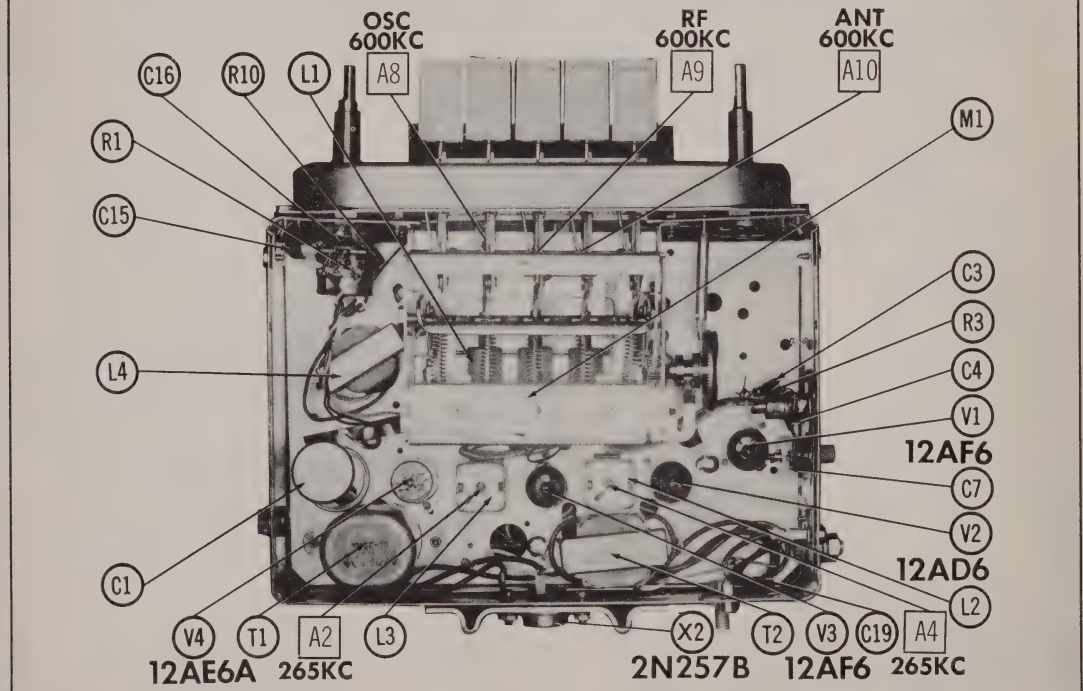
KD985

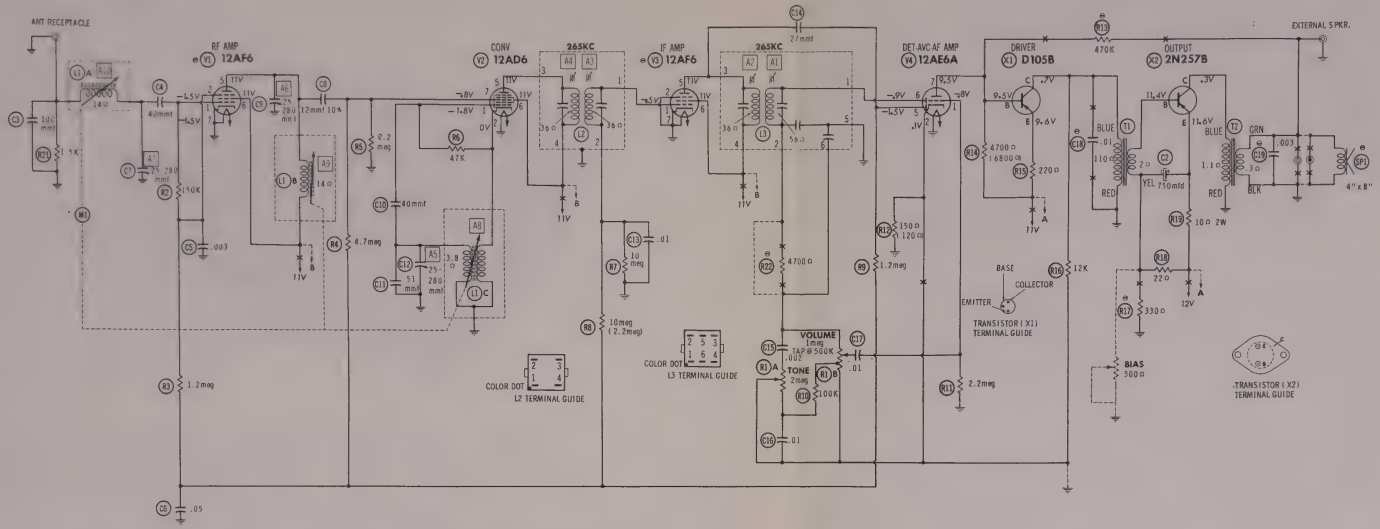
SET 571 FOLDER 13



CHASSIS BOTTOM VIEW



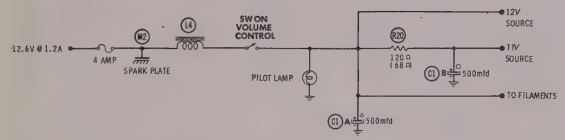
CHASSIS TOP VIEW

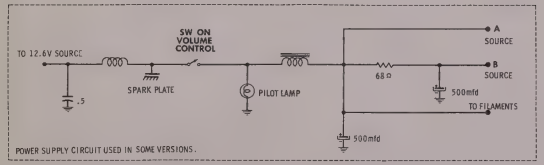


RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V1	12AF6	5.1meg	5meg	FIL	FIL	120Ω	100Ω	0Ω
V2	12AD6	47K	.1Ω	FIL	FIL	140Ω	100Ω	2meg
V3	12AF6	6.3meg	0Ω	FIL	FIL	160Ω	100Ω	0Ω
V4	12AE6A	2.2meg	120Ω	FIL	FIL	6meg	1meg	

TRANSISTOR CIRCUIT RESISTANCE FOR X1 AND X2 NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.





⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT-TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Battery voltage maintained at 12.6 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±5% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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SOUNDEX MODELS COM-60, COP-60, STM-059, STP-059

PARTS LIST AND DESCRIPTIONS

TUBES

◆ GENERAL ELECTRIC ◆ RAYTHEON ◆ SYLVANIA ◆					
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	12AF6 (12BL6)*	V3	IF Amplifier	12AF6 (12BL6)*
V2	Converter	12AD6	V4	Det. -AVC-AF Amplifier	12AE6A

* Used in Models COP-60, COM-60

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	D-105B	Driver			PNP
X2	2N257B	Output			PNP Note 1

Note 1. When replacing, apply silicone grease between transistor and heat sink. Tighten mounting screws securely.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	SOUNDEX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	450	15	Note 1	PWH2-02-40		XC3-48	WP200.6		TVLS-2157*
B	500	15							
C2	750	3		PRS1130	BR1000-6	QT1-32	PETA190	TD-100-6	TVAS-1097*

Note 1. C1B is 150mfd in some versions of COM-60 and COP-60.
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C4	40		DI-39	DD-390	L10Q39	CCD-390	GP439	10TS-Q39
C5	.003		DI-3000	DD-302	BYA10D3	CCD-302	GP230	10TS-D30
C6	.05 200V		P288N-05	DD-503	CUB2S5	4DP-3-503	GEM-415	2TM-S50
C7	25-280					464		
C8	12 10%		DI-12	DD-120	L10Q12	CCD-120	GP412	10TS-Q12
C9	25-280					464		
C10	40		DI-39	DD-390	L10Q39	CCD-390	GP439	10TS-Q39
C11	51		DI-50	DD-510	L10Q51	CCD-500	GP450	10TS-Q50
C12	25-280					464		
C13	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C14	27		DI-27	DD-270	L10Q27	CCD-270	GP427	

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C15	.002		BPD-002	DD-202	BYA10D2	CCD-202	B-220	5HK-D20
C16	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C17	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C18	.01	Note 1	BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C19	.003	Note 1	DI-3000	DD-302	BYA10D3	CCD-302	GP230	10TS-D30

Note 1. Not used in some versions.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			SOUNDEX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	2meg	R213	F1-67, R2-60,		† QJ-1555A	
B	Volume & Switch	1meg 500K Tap		AK-26, KR-1			

† "CONCENTRIKIT" Equivalent K-8 Kit with Base Elements and Shafts:
B11-139, P17-126 (Panel)
B19-137X, R1-207 (Rear)
76-1 (Switch)
S8 (Bushing)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	150K				R13	470K			Note 1
R3	1.2meg				R14	4700Ω			(6800Ω)*
R4	4.7meg				R15	220Ω			
R5	2.2meg				R16	12K			
R6	47K				R17	330Ω			Note 1
R7	10meg				R18	22Ω			
R8	10meg			(2.2meg)*	R19	10Ω 2W			
R9	1.2meg				R20	120Ω			(68Ω)*
R10	100K				R21	1500Ω			
R11	2.2meg				R22	4700Ω			Note 1
R12	150Ω			(120Ω)*					

* Alternate Value.
Note 1. Not used in some versions.

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		SOUNDEX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1A	Ant.						
B	RF						
C	Osc.						
L2	Input IF		BC-350	12-H1	RTC-8638	T604	
L3	Output IF		BC-354	12-H6	RTC-8640	T606	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ∿)	SOUNDEX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L4	1.2A	.6Ω	.008 HY						

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	SOUNDEX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	10	1	LF-3522					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	SOUNDEX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	20Ω	3-4Ω	LF-1740					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	SOUNDEX PART No.	QUAM PART No.	
SP1	4"x 8"	PM	3-4Ω	SK12	48A2	Models STP-059, STM-059
	6"x 9"	PM	3-4Ω		69A3	Models COP-60, COM-60

MISCELLANEOUS

ITEM No.	PART NAME	SOUNDEX PART No.	NOTES
M1	Tuner		Pushbutton Type
M2	Spark Plate		

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

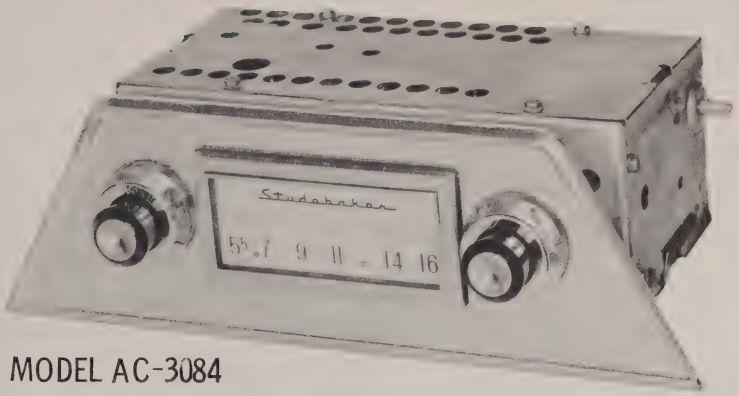
Shielded Hook-up Wire ..... Use BELDEN No. 8885

Bonding Strap ..... Use BELDEN No. 8661

PHOTOFACT® Folder with CIRCUITRACE*

**STUDEBAKER MODELS
AC-3084, AC-3086**

STUDEBAKER MODELS
AC-3084, AC-3086



MODEL AC-3084

STUDEBAKER MODELS
AC-3084, AC-3086

TRADE NAME	Studebaker Models AC-3084, AC-3086 (For 1961 Studebakers)
MANUFACTURER	Delco Radio Div., General Motors Corp., Kokomo, Indiana
TYPE SET	Battery Operated 4 Tube - 1 Transistor Custom Built Automobile AM Receiver
POWER SUPPLY	12 Volt Storage Battery RATING 1.8 Amp. @ 12.6 Volts DC
TUNING RANGE—BROADCAST	540-1615KC

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1 thru A5, A9, A10.....GENERAL CEMENT #8282, 8606, 8606-L, 9091
WALSCO #2526, 2541, 2542, 2543, 2544

A6, A7, A8.....GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .1mfd to pin 7 (grid) of Converter. Low side to chassis.	262KC (400~ Mod.)	High end stop.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
	Check setting of Oscillator core (A5). Rear of core should be 1 5/8" from mounting end of the coil form.					
2.	High side thru 82mmf to antenna receptacle. Low side to chassis.	1615KC	High end stop.	Across voice coil.	A6, A7, A8	Adjust for maximum output.
3.	"	600KC	600KC Signal.	"	A9, A10	"
4.	"	1615KC	High end stop.	"	A7, A8	"
5.	With radio installed in car and antenna fully extended, tune in a weak station near 1000KC and adjust A8 for maximum output.					

DIAL CORD STRINGING

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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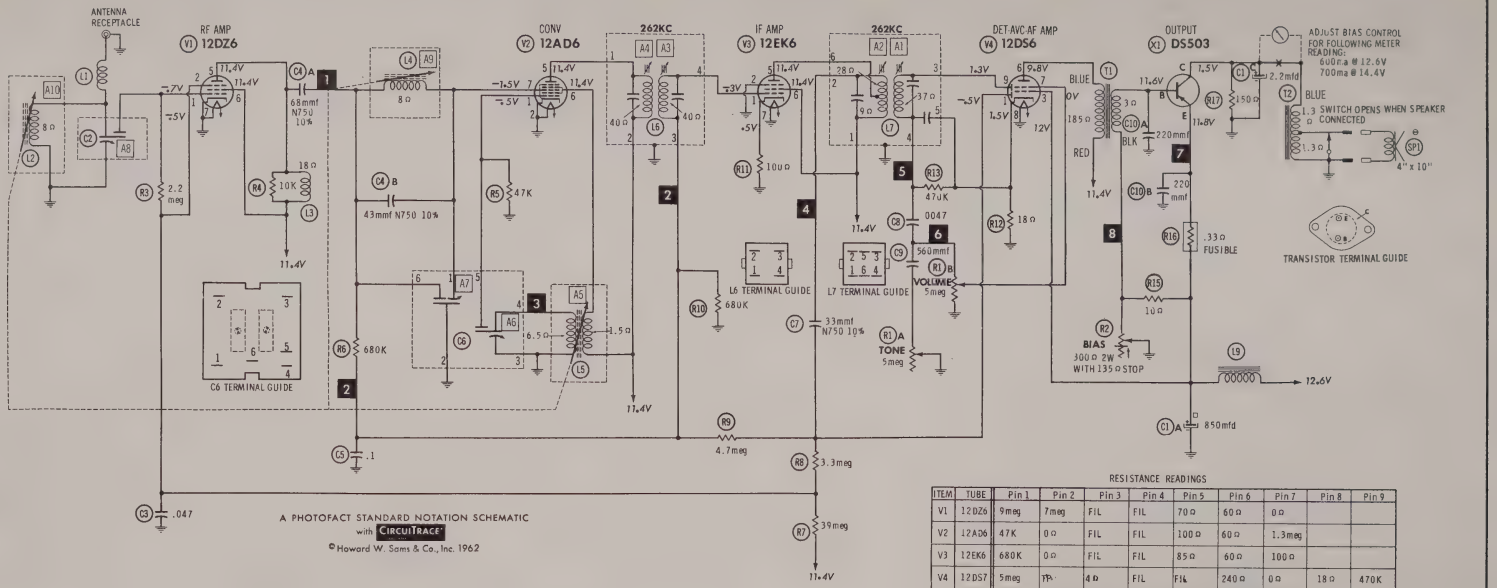
KD932

SET 571 FOLDER 14



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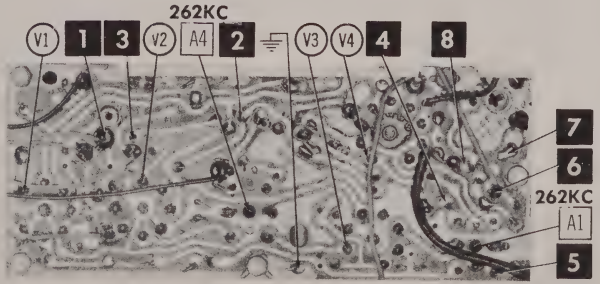
RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12DZ6	9meg	7meg	FIL	FIL	70Ω	60Ω	0Ω		
V2	12AD6	47K	0Ω	FIL	FIL	100Ω	60Ω	1.3meg		
V3	12EK6	680K	0Ω	FIL	FIL	85Ω	60Ω	100Ω		
V4	12DS7	5meg	TP*	4Ω	FIL	FIL	240Ω	0Ω	18Ω	470K

TRANSISTOR CIRCUIT RESISTANCE FOR X1 NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Battery voltage maintained at 12.6 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



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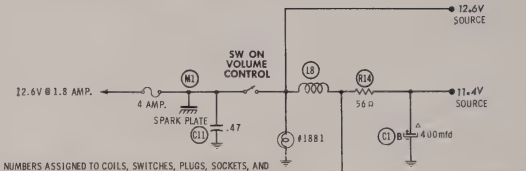
ARROWS INDICATING TUBE LOCATIONS ARE POINTING TO PIN 1 UNLESS OTHERWISE INDICATED

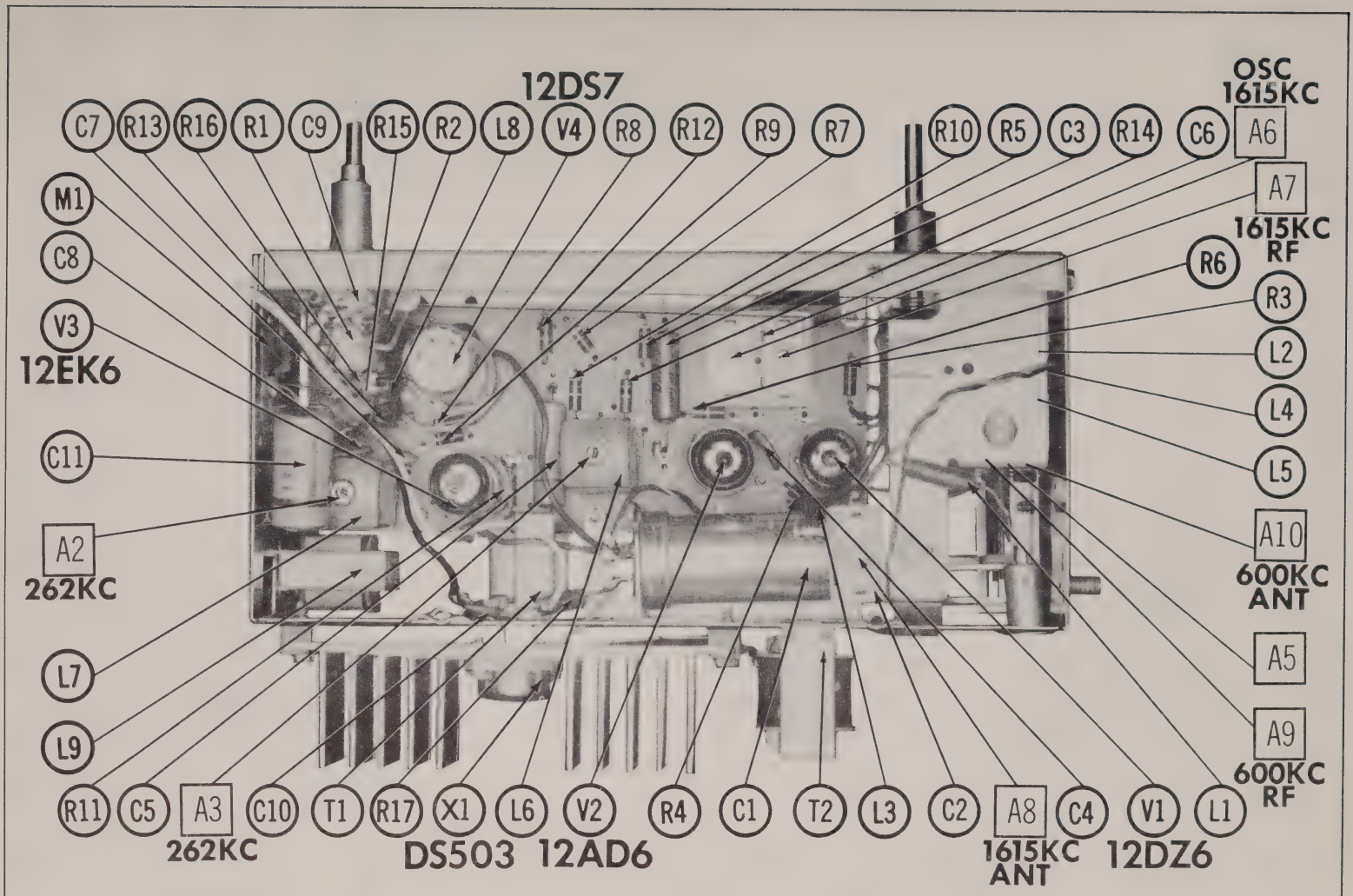


NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

STUDEBAKER MODELS AC-3084, AC-3086



CHASSIS TOP VIEW

PARTS LIST AND DESCRIPTIONS

TUBES

◆ GENERAL ELECTRIC ◆ RAYTHEON ◆ SYLVANIA ◆					
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amplifier	12DZ6	V3	IF Amplifier	12EK6
V2	Converter	12AD6	V4	Det.-AVC-AF Amp.	12DS7

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	DS503	Output	2N176		PNP Note 1

Note 1. When replacing, apply silicone grease between transistor and heat sink. Tighten mounting screws securely. Check bias adjustment.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	DELCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	■850	16	7273730	AFH3-54-30			WP300.6		TVLS-3021*
B	▲400	16							
C	2.2	11.5AC							

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2		#7275120						
C3	.047 75V		P288N-047	DD-503	CUB2S47	1DP-2-473	GEM-4147	2TM-S47
C4A	68 N750 10%		N750-DI 68	TCN-68	C10Q68U	CCTN-680	CN7-468	10TCU-Q68
B	43 N750 10%		N750-DI 39	TCN-43	C10Q43U	CCTN-390	CN7-439	10TCU-Q39
C5	.1 75V		P288N-1	DF-104	CUB2P1	1DP-2-104	GEM-201	2TM-P10
C6		#7273697						
C7	33 N750 10%		N750-DI 33	DTN-33	C10Q33U	CCTN-330	CN7-433	10TCU-Q33
C8	.0047		BPD-0047	DD-472	BYA10D47M	CCD-472	B-247	5HK-D47
C9	560		DI-560	DD-561	L10T56	CCD-561	B-356	10TS-T56
C10A	220		DI-220	DD-221	L10T22	CCD-221	B-322	10TS-T22
B	220		DI-220	DD-221	L10T22	CCD-221	B-322	10TS-T22
C11	.47 100V		P288N-47		CUB2P47	1DP-4-474	GEM-2047	2TM-P47

Delco Part Number.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			DELCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Tone	5meg	7278074				■ UE4250-S
B	Volume & Switch (Off-On)	5meg					
R2	Bias	300Ω (2W) (135Ω Stop)	7275474				

■ "STA-LOC" Equivalent: FS56A, RU56A, OSI187, ISI687, US41.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R3	2.2meg				R11	100Ω			
R4	10K				R12	18Ω			
R5	47K				R13	470K			
R6	680K				R14	56Ω			
R7	39meg				R15	10Ω			
R8	3.3meg				R16	.33Ω			Pt. #7274151
R9	4.7meg				R17	150Ω			
R10	680K								

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		DELCO PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	RF Choke(6.5uh)	7255738	BC-565	4610	RTC-8520	T859	
L2	Ant.	1221138					
L3	RF Choke(1.8MH)	7269684	BC-514	4664	RTC-8533	T875	
L4	RF	1221138					
L5	Osc.	1221263					
L6	Input IF	1221257	BC-344	13-PH1	RTC-8644	T855	
L7	Output IF	1221255	BC-424				
L8	Hash Choke(1.4uh)	7241708					

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000 ~)	DELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
L9		.7Ω	.011 HY	7274342		TC-2			

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	DELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	6.8	1	1221590		TA-48			

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA					NOTES
	PRI.	DELCO PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	8Ω Tap ⓐ 3-4Ω	1221535		TA-50			

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	DELCO PART No.	QUAM PART No.	
SP1	4"x 10"	PM	3-4Ω	7278208 *	410A2	* Used in Model AC-3084
	4"x 8"	PM	3-4Ω	7275979 ♣	48A2	♣ Used in Model AC-3086

MISCELLANEOUS

ITEM No.	PART NAME	DELCO PART No.	NOTES
M1	Spark Plate	7271564	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Dial Pointer	7278524	
Knob	7267414	Tuning, Volume
Knob	569554	Tone
Knob	569555	Dummy

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors
Shielded Hook-up Wire ..... Use BELDEN No. 8885
Bonding Strap ..... Use BELDEN No. 8661

PHOTOFACT® Folder with CIRCUITRACE®

TRANS-ETTE
MODEL YRM6

TRANS-ETTE
MODEL YRM6

TRANS-ETTE
MODEL YRM6

TRADE NAME	Transette Model YRM6		
IMPORTER	Custom Importing Co., 1409-11 Murray Road, N. Kansas City 16, Missouri		
TYPE SET	Battery Operated Transistorized Portable AM Receiver		
POWER SUPPLY	9 Volts DC	RATING	6MA@9 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	540-1600KC		10MA@9 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1, A2, A3..... GENERAL CEMENT #8607, 9291, 9294
WALSCO #2520, 2522, 2523, 2524, 2534, 2537

A4, A6.....GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089
WALSCO #2512, 2525, 2528

A5.....GENERAL CEMENT #9440

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400~ Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3	Adjust for maximum output.
2.	"	1600KC	1600KC	"	A4	"
3.	"	600KC	600KC	"	A5	"
4.	"	1400KC	1400KC Signal.	"	A6	"
5.	"	600KC	600KC Signal.	"	A7	Adjust for maximum output by moving antenna coil turns along ferrite core. Repeat steps 2 thru 5.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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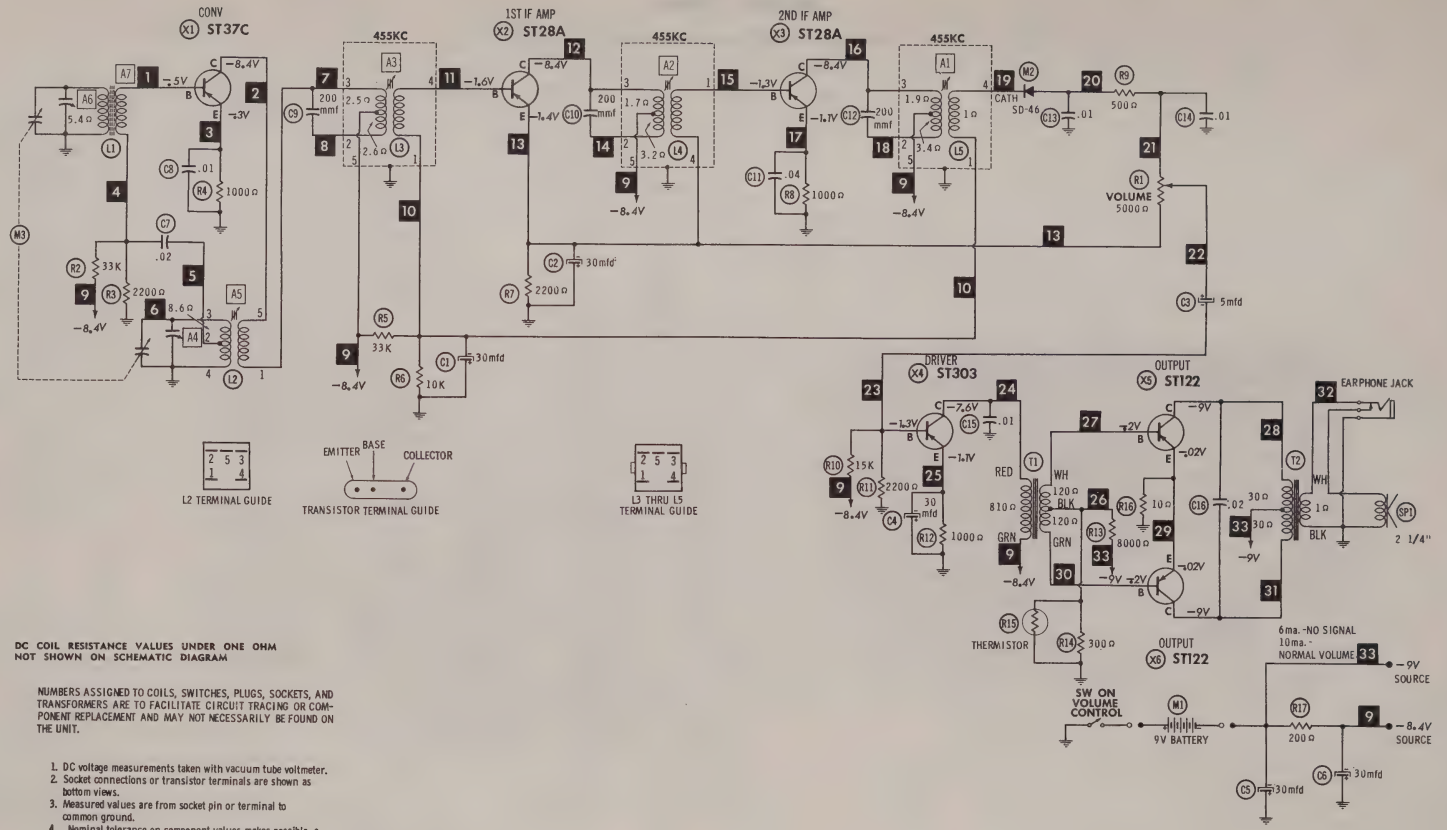
KF924

SET 571 FOLDER 15



DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE®

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TRANS-ETTE MODEL YRM6

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	ST37 C	Converter			PNP
X2	ST28 A	1st IF Amplifier	2N409		PNP
X3	ST28 A	2nd IF Amplifier	2N409		PNP
X4	ST303	Driver			PNP
X5	ST122	Output			PNP
X6	ST122	Output			PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	TRANSETTE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	30	3		PTT10	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C2	30	3		PTT10	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C3	5	3		PTT4	NLW5-15	MT1-3	TT6X5	MLV5-3	TE-1052.2
C4	30	3		PTT10	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C5	30	6		PTT27	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C6	30	6		PTT27	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C7	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-S20
C8	.01		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C9	200		SI 200	D6-201	L10T2	CCD-201	GP320	10TS-T20
C10	200		SI 200	D6-201	L10T2	CCD-201	GP320	10TS-T20
C11	.04							
C12	200		SI 200	D6-201	L10T2	CCD-201	GP320	10TS-T20
C13	.01		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C14	.01		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C15	.01		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C16	.02		C80V203AM	DM-203	H-05S2		TA-120	TG-S20

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			TRANSETTE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω					

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN TV PART No.	REMARKS			IRC PART No.	WORKMAN TV PART No.	REMARKS
R2	33K				R10	15K			
R3	2200Ω				R11	2200Ω			
R4	1000Ω				R12	1000Ω			
R5	33K				R13	8000Ω			
R6	10K				R14	300Ω			
R7	2200Ω				R15	Temp. Comp.			
R8	1000Ω				R16	10Ω			
R9	500Ω				R17	200Ω			

PRINTED BOARD

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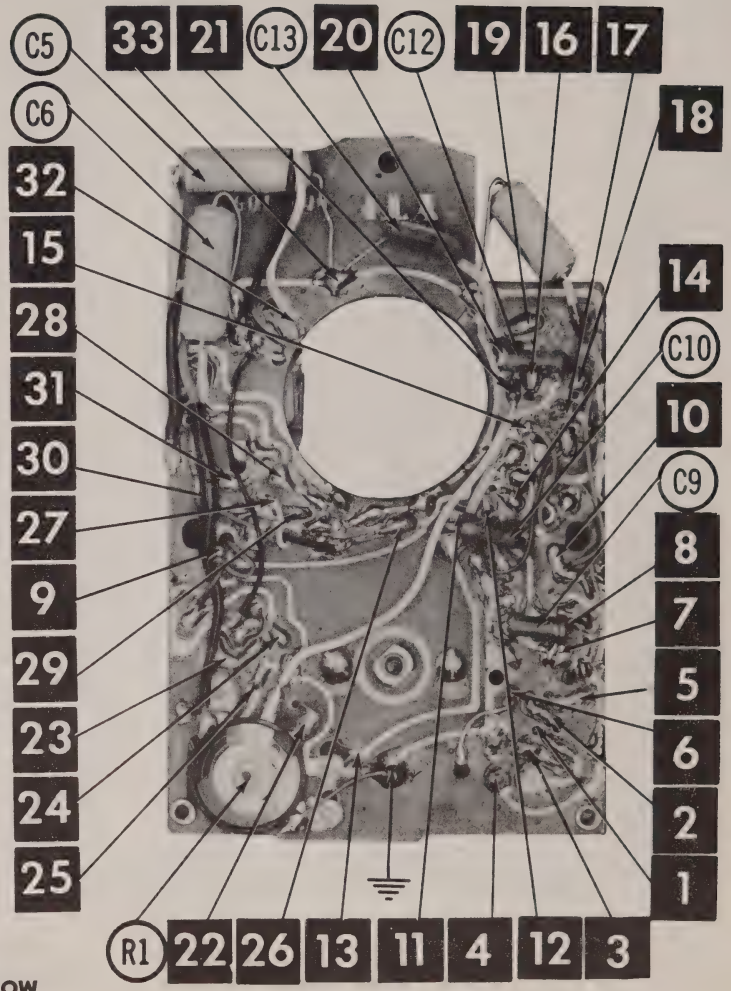


PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		TRANSETTE PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	Loopstick						
L2	Osc.						
L3	1st IF						
L4	2nd IF						
L5	3rd IF						

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	TRANSETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1	1						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	TRANSETTE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	1500Ω CT	10-12Ω			TA-26	TR-105		

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	TRANSETTE PART No.	QUAM PART No.	
SP1	2 1/4"	PM	10-12Ω		22A06Z8	

BATTERIES

ITEM No.	VOLTAGE	TRANSETTE PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	9V			2U6		216		M-1604	

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		TRANSETTE PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	SD46			1N60	Detector

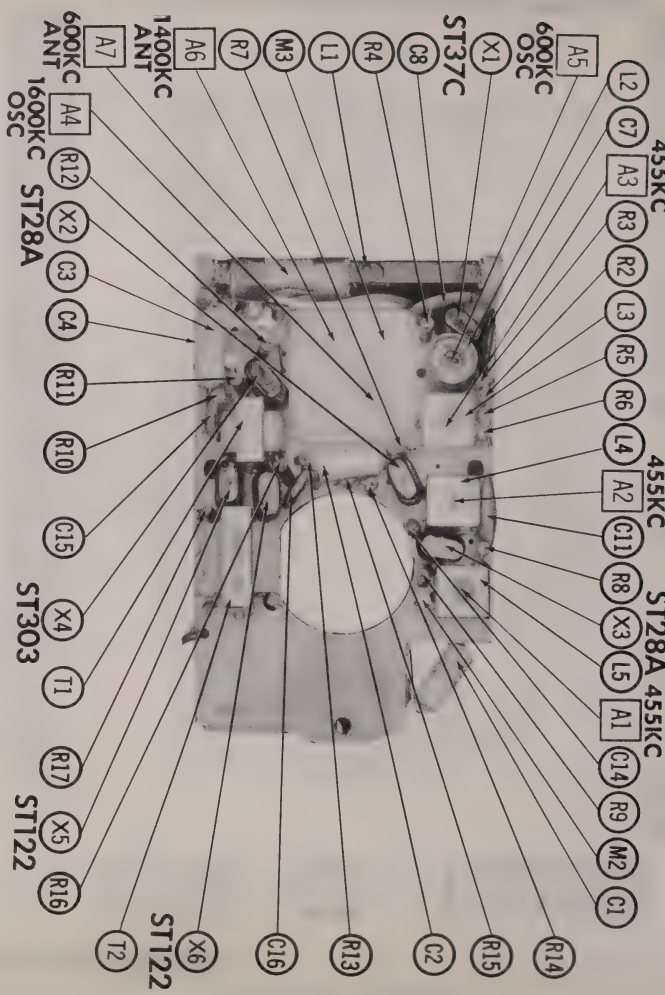
MISCELLANEOUS

ITEM No.	PART NAME	TRANSETTE PART No.	NOTES
M3	Tuning Cap.		2 Gang

WIRING DATA

General-use Unshielded Hook-up Wire .....Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

CHASSIS—TOP VIEW



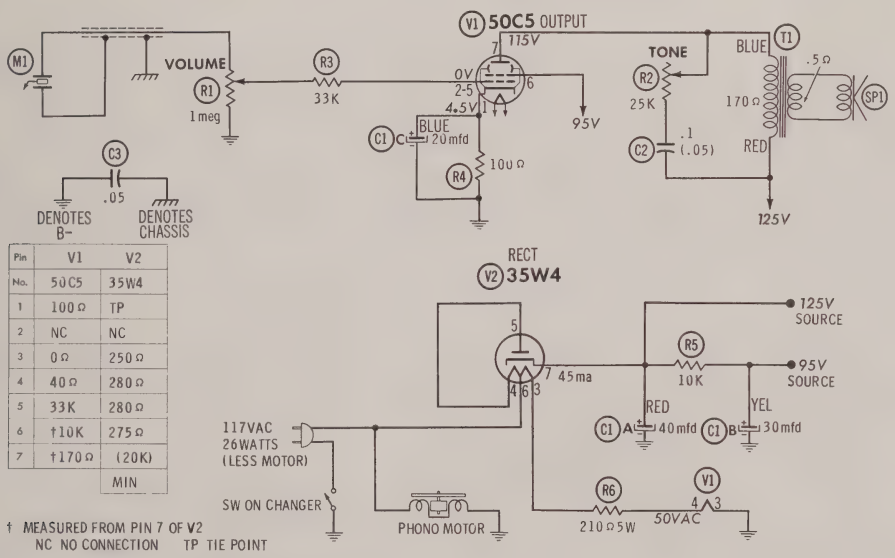
PHOTOFACT® Folder

TRUETONE MODEL 4DC6225

TRUETONE MODEL 4DC6225

TRADE NAME	Truetone Model 4DC6225
SUPPLIER	Western Auto Supply Co., 2107 Grand Ave., Kansas City 8, Missouri
TYPE SET	AC Operated 2 Tube Phono Amplifier With 4 Speed Automatic Record Changer
POWER SUPPLY	110 — 125 Volts AC, 60 Cycles RATING 26 Watts, .25 Amp. @117 Volts AC (Less Motor)

FOR SERVICE INFORMATION ON RECORD CHANGER RC-43 — SEE SIMILAR B.S.R. UA8 — PHOTOFACT SET 381 FOLDER 11 OR RECORD CHANGER MANUAL RC-11



Pin No.	V1	V2
1	100Ω	TP
2	NC	NC
3	0Ω	250Ω
4	40Ω	280Ω
5	33K	280Ω
6	†10K	275Ω
7	†170Ω	(20K)
		MIN

† MEASURED FROM PIN 7 OF V2
NC NO CONNECTION TP TIE POINT

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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SET 571 FOLDER 16

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	TYPE (◆ GENERAL ELECTRIC ◆ RAYTHEON ◆ SYLVANIA ◆)
V1	Output	50C5
V2	Rectifier	35W4

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP.	RATING VOLT.	REPLACEMENT DATA TRUETONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	40	150	EC-71	PRS3625	BBRT43215	QT3-3	TCT3105	TDLT-3	TVA-3448
B	30	150							
C	20	150							

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C2	.1 400V	(.05) †	P488N-1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10
C3	.05 400V		P488N-05	DD-503	CUB4S5	4DP-3-503	GEM-415	4TM-S50

† Alternate Value

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA TRUETONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	1meg	½	VC-118	B-70	A47-1meg-Z	Q13-137	U53	Volume
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	
R2A	25K	½	VC-71	B-26	A47-25K-S	Q11-120	U29	Tone
B	Shaft			Not Req.	KSS-3	Not Req.	Not Req.	

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN TV PART No.	REMARKS
R3	33K			
R4	100Ω			
R5	10K	PW5-210	5W-SQ-210	
R6	210Ω 5W			

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA TRUETONE PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	2700Ω	3-4Ω	(Part of SP1)	A-3025	A-3332	24S53	S-12X	

SPEAKER

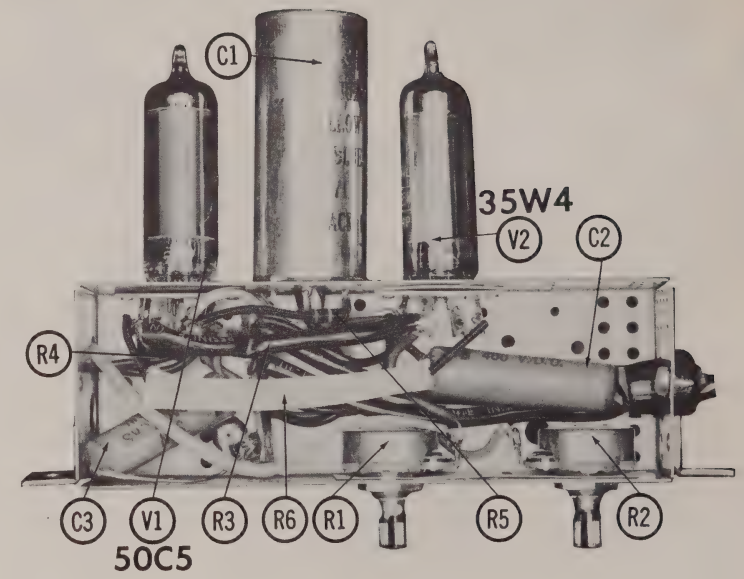
ITEM No.	TYPE SIZE	TYPE FIELD	TYPE V. C. IMP.	REPLACEMENT DATA TRUETONE PART No.	QUAM PART No.	NOTES
SP1	4"	PM	3-4Ω	SPK-89B*	4A05	* Includes T1

PHONO CARTRIDGE & NEEDLES

*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	TRUETONE PART No. CARTRIDGE	TRUETONE PART No. NEEDLE*	ASTATIC PART No. CARTRIDGE	ASTATIC PART No. NEEDLE*	ELECTRO-VOICE PART No. CARTRIDGE	ELECTRO-VOICE PART No. NEEDLE*	SONOTONE PART No. CARTRIDGE	SONOTONE PART No. NEEDLE*	NOTES
M1	3DX5398	3DX5358* (78RPM)	120 KR-314-T ◆	N8-3*	80	2611 * 2613 *	† 12THA-S ◆ T81-12THA-S	N-12THA-S *	† Parallel Cartridge Leads. ◆ Tone Arm Includes Cartridge & Needles
		3DX5386* (LP)		N8-1*					

CHASSIS—BOTTOM VIEW



CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Knob	K-373	
Cabinet	CA-397	

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No. 1765-B (6 Ft. Length) 1725-K (7½ Ft. Length)
Low-Loss Shielded Lead (Interconnecting)	Use BELDEN No. 8401
Phono Pick-up Arm Cable	Use BELDEN No. 8430 (Two Conductor - Twisted)

PHOTOFACT® Folder with CIRCUITRACE®

WESTCLOX MODELS 80002, 80004, 80006, 80010, 80012

WESTCLOX MODELS 80002, 80004, 80006, 80010, 80012

MODEL 80004

WESTCLOX MODELS 80002, 80004, 80006, 80010, 80012

TRADE NAME	Westclox Models 80002, 80004, 80006, 80010, 80012
MANUFACTURER	Westclox, Div. of General Time Corp., LaSalle, Illinois
TYPE SET	Battery Operated Transistorized Portable AM Receiver with Wind-up Type Clock
POWER SUPPLY	9 Volts DC RATING 10MA@9 Volts DC (No Signal, Min. Volume)
TUNING RANGE—BROADCAST	540 — 1600KC 12MA@9 Volts DC (Signal, Normal Volume)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools:

A1, A2, A3, A5..... GENERAL CEMENT #5004, 5009, 8195, 8274, 8275, 8607, 8728, 8987, 8988, 8989, 9291
WALSCO #2515, 2520, 2522, 2523, 2531, 2532, 2534, 2537, 2538

A4, A6..... GENERAL CEMENT #5000, 5003, 5066, 8276, 8290, 9087, 9089
WALSCO #2512, 2525, 2528

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455KC (400~ Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3	Adjust for maximum output.
2.	"	1650KC	"	"	A4	"
3.	"	525KC	Tuning gang fully closed.	"	A5	"
4.	"	1400KC	1400KC Signal.	"	A6	"
5.	"	600KC	600KC Signal.	"	A7	Adjust for maximum output by moving coil along ferrite core.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

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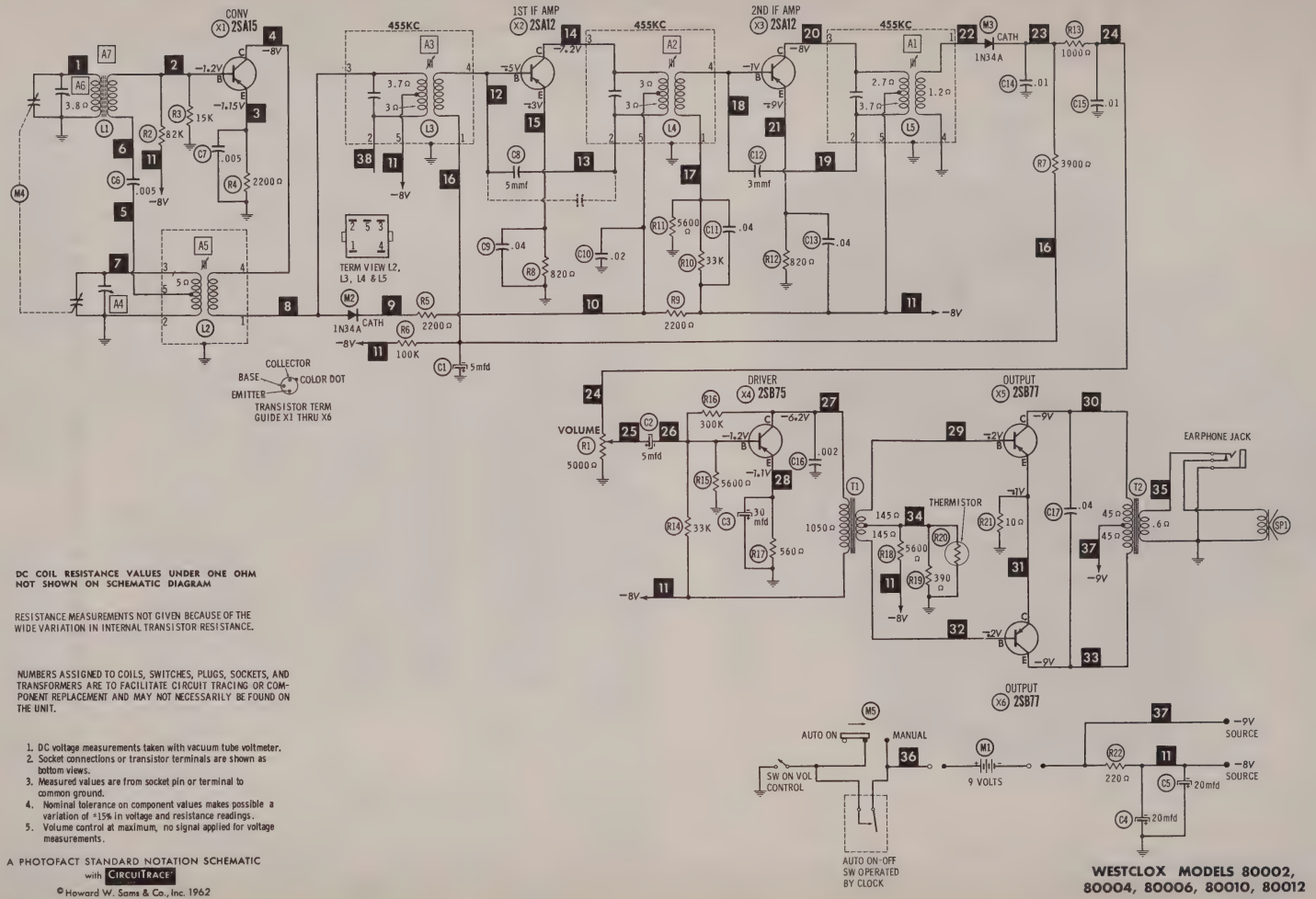
KF964

SET 571 FOLDER 17



DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

RESISTANCE MEASUREMENTS NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC with CIRCUITRACE®

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WESTCLOX MODELS 80002, 80004, 80006, 80010, 80012

PARTS LIST AND DESCRIPTIONS

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RCA PART No.	RAYTHEON PART No.	
X1	2SA15	Converter	2N412		PNP
X2	2SA12	1st IF Amplifier	2N410		PNP
X3	2SA12	2nd IF Amplifier	2N410		PNP
X4	2SB75	Driver	2N406		PNP
X5	2SB77	Output	2N408		PNP
X6	2SB77	Output	2N408		PNP

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	WESTCLOX PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1	5	6	CEX5B6	PTT21	NLW5-15	MT1-3	TT6X5	MLV5-6	TE-1084
C2	5	6	CEX5B6	PTT21	NLW5-15	MT1-3	TT6X5	MLV5-6	TE-1084
C3	30	3	CES30C3	PTT10	NLW30-6	MT1-13	TT6X30	MLV30-6	TE-1092
C4	20	10	CES20C10	PTT41	NLW20-15	MT1-10	TT15X20	MLV20-12	TE-1130
C5	20	10	CES20C10	PTT41	NLW20-15	MT1-10	TT15X20	MLV20-12	TE-1130

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	.005		C80V502AM	DM-502	H-05D5	CCD-502	TA-250	TG-D50
C7	.005		C80V502AM	DM-502	H-05D5	CCD-502	TA-250	TG-D50
C8	5		NPO-DI 5.0	DTZ-4R7	C10V5C	CCTO-050	CNO-547	10TCC-V50
C9	.04	#CKD. 04C						
C10	.02		C80V203AM	DA-203	H-05S2		TA-120	TG-120
C11	.04	#CKD. 04C						
C12	3		NPO-DI 3.0	DTZ-3R3	C10V3C	CCTO-3R3	CNO-533	10TCC-V33
C13	.04	#CKD. 04C						
C14	.01		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C15	.01		C80V103AM	DM-103	H-05S1		TA-110	TG-S10
C16	.002		BPD-002	DM-202	BYA10D2	CCD-202		5HK-D20
C17	.04	#CKD. 04C						

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			WESTCLOX PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	RD-118-2A				

RESISTORS

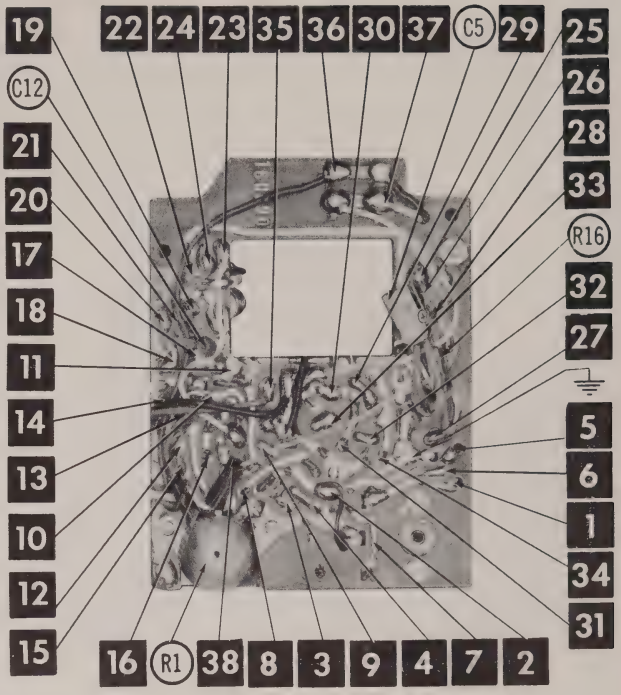
All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING	REPLACEMENT DATA		REMARKS
		IRC PART No.	WORKMAN TV PART No.	
R2	82K			
R3	15K			
R4	2200Ω			
R5	2200Ω			
R6	100K			
R7	3900Ω			
R8	820Ω			
R9	2200Ω			
R10	33K			
R11	5600Ω			
R12	820Ω			

ITEM No.	RATING	REPLACEMENT DATA		REMARKS
		IRC PART No.	WORKMAN TV PART No.	
R13	1000Ω			
R14	33K			
R15	5600Ω			
R16	300K			
R17	560Ω			
R18	5600Ω			
R19	390Ω			
R20	Thermistor			Pt. #B-2B
R21	10Ω			
R22	220Ω			

PRINTED BOARD

A Howard W. Sams CIRCUITRACE* Photo



COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		WESTCLOX PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	
L1	Loopstick Osc.	LT-190					
L2		LT-267					
L3	1st IF	LT-346-A					
L4	2nd IF	LT-346-B					
L5	3rd IF	LT-346-C					

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	WESTCLOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T1	1, 4	1	LT-527					

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	WESTCLOX PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	700Ω CT	6-8Ω	LT-456					

SPEAKER

ITEM No.	TYPE			REPLACEMENT DATA		NOTES
	SIZE	FIELD	V. C. IMP.	WESTCLOX PART No.	QUAM PART No.	
SP1	2 1/4"	PM	6-8Ω	SP6-04	22A06Z8	

BATTERIES

ITEM No.	VOLTAGE	WESTCLOX PART No.	REPLACEMENT DATA						NOTES
			BURGESS		EVEREADY		MALLORY		
			"A"	"B"	"A"	"B"	"A"	"B"	
M1	9V			2U6		216		M-1604	

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		WESTCLOX PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M2	1N34A			1N60	Overload
M3	1N34A			1N60	Detector

MISCELLANEOUS

ITEM No.	PART NAME	WESTCLOX PART No.	NOTES
M4	Tuning Cap.	CD-160	2 Gang (Ant. 6.5—148mmf, Osc. 6—65mmf)
M5	Switch	SD-134	Manual-Auto (SPST Slide Type)
	Earphone	EAR-19	

CABINETS & CABINET PARTS

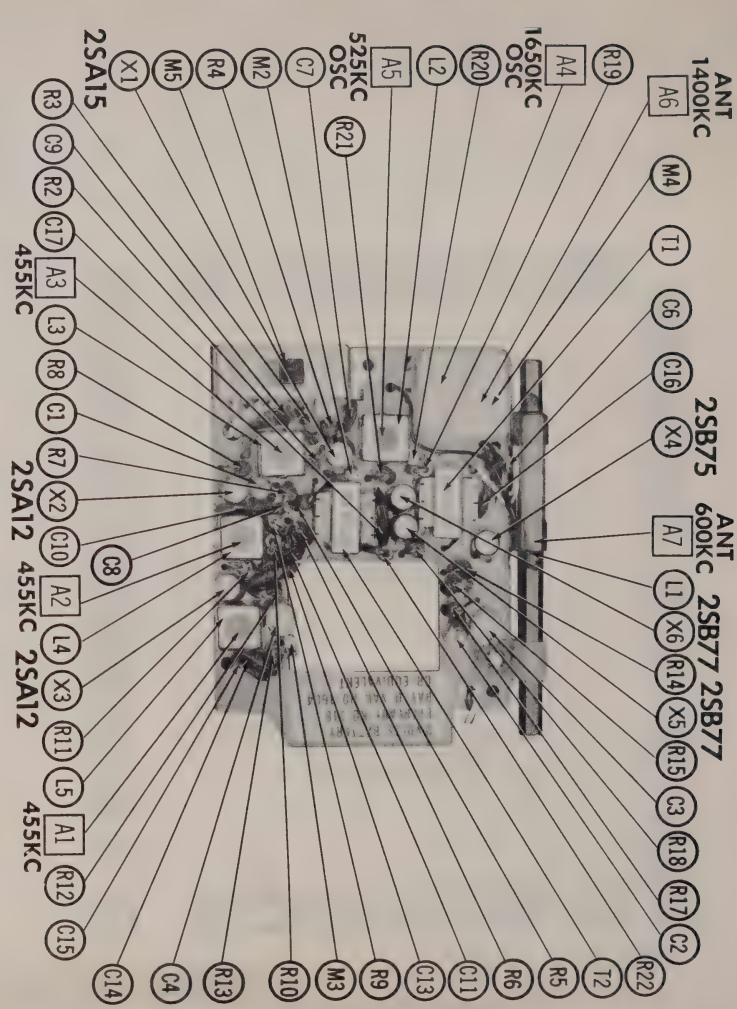
(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Clock Crystal	R-30033	
Clock Dial	R-30029	Luminous, Black, Model 80002
Clock Dial	R-30049	Luminous, Gold, Model 80004
Clock Winding Key	R-30045	Silver, Model 80002
Clock Winding Key	R-30051	Gold, Model 80004
Knob	R-30042	Clock Set, Silver, Model 80002
Knob	R-30050	Clock Set, Gold, Model 80004
Knob	R-30052	Clock, Indicator, Set, White, Model 80004
Knob	R-30023	Clock, Indicator, Set, Gray
Knob	R-30044	Clock, Auto-Alarm Set, Red
Knob	160B02	Tuning, Gray, Model 80002
Knob	160B02A	Tuning, White, Model 80004
Knob	160B03	Volume, Gray, Model 80002
Knob	160B03A	Volume, White, Model 80004
Cabinet Back	160B01C	Aqua, Model 80004
Cabinet Back	160B01B	White, Model 80002
Cabinet Front	160B01A	White, Model 80004
Cabinet Front	160B01	Gray, Model 80002
Carrying Case	CAS-10	Brown, Model 80004
Carrying Case	CAS-8	Gray, Model 80002
Carrying Strap	STR-11	Long, Gray, Model 80002
Carrying Strap	STR-12	Long, Brown, Model 80004

WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors

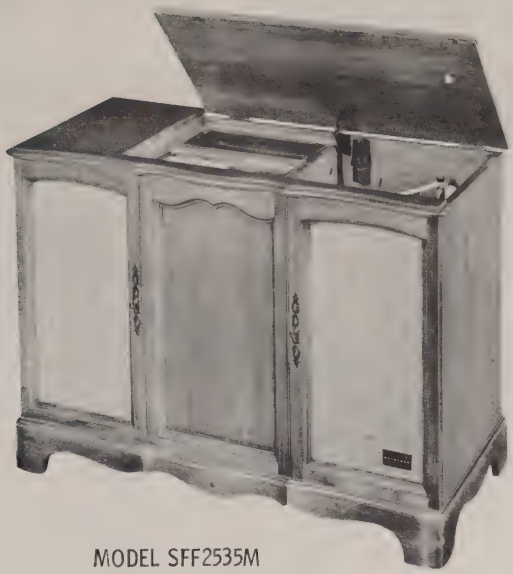
CHASSIS—TOP VIEW



PHOTOFACT® Folder

ZENITH MODELS SFF2535M, R (Ch. 3F32, 9F26)

ZENITH MODELS SFF2535M, R (Ch. 3F32, 9F26)

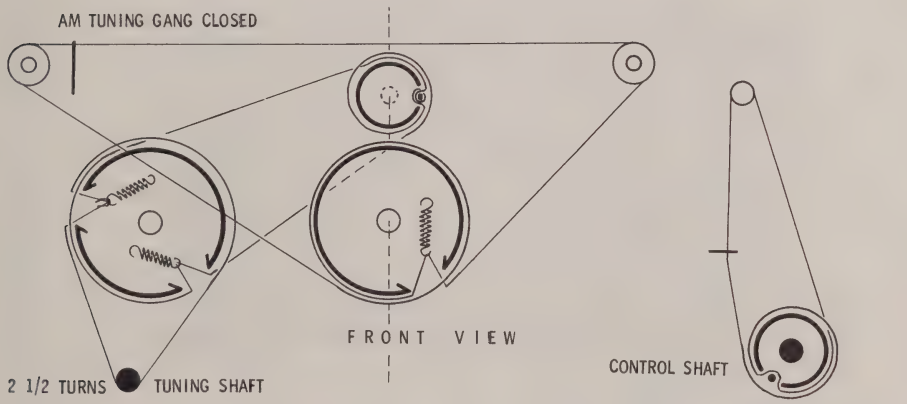


MODEL SFF2535M

TRADE NAME	Zenith Models SFF2535M, SFF2535R (Tuner CH. 9F26, Amp. CH. 3F32)
MANUFACTURER	Zenith Radio Corp., 6001 Dickens Ave., Chicago 39, Illinois
TYPE SET	AC Operated 9 Tube FM-AM, 3 Tube Stereo Amplifier and 4 Speed Automatic Record Changer
POWER SUPPLY	110 — 120 Volts AC, 60 Cycles RATING 120 Watts, 1.1 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540 — 1600KC FREQ. MOD. 88 — 108MC

FOR SERVICE INFORMATION ON RECORD CHANGER 169 -134 — SEE SIMILAR V-M 1586 — PHOTOFACT SET 527 FOLDER 14

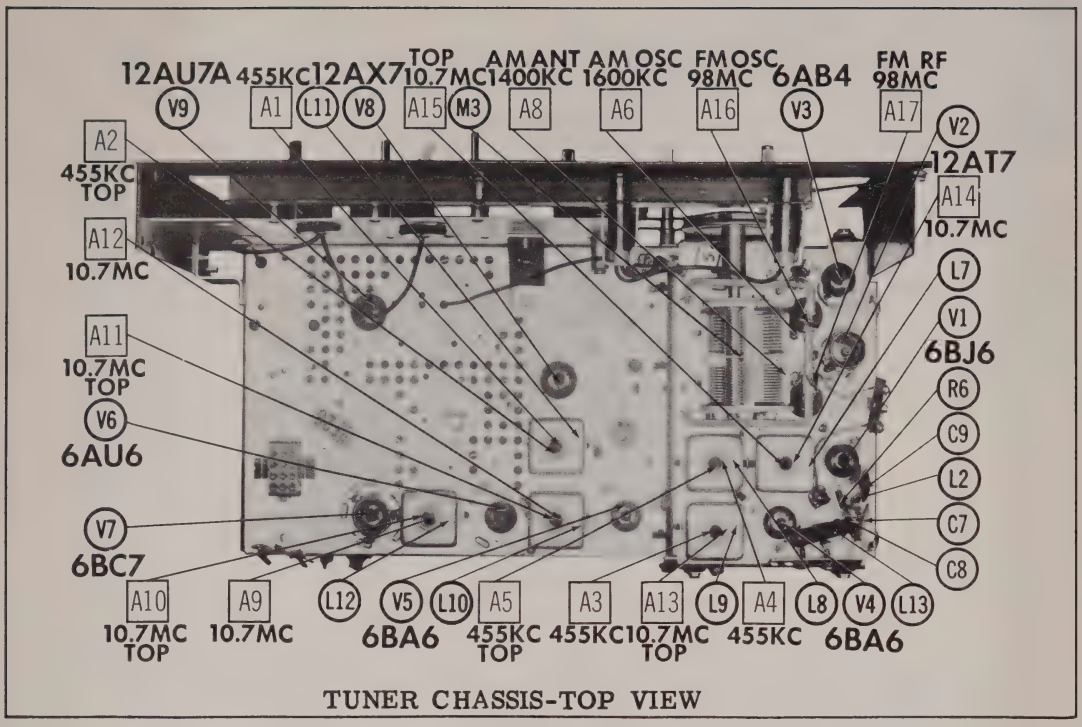
DIAL CORD STRINGING



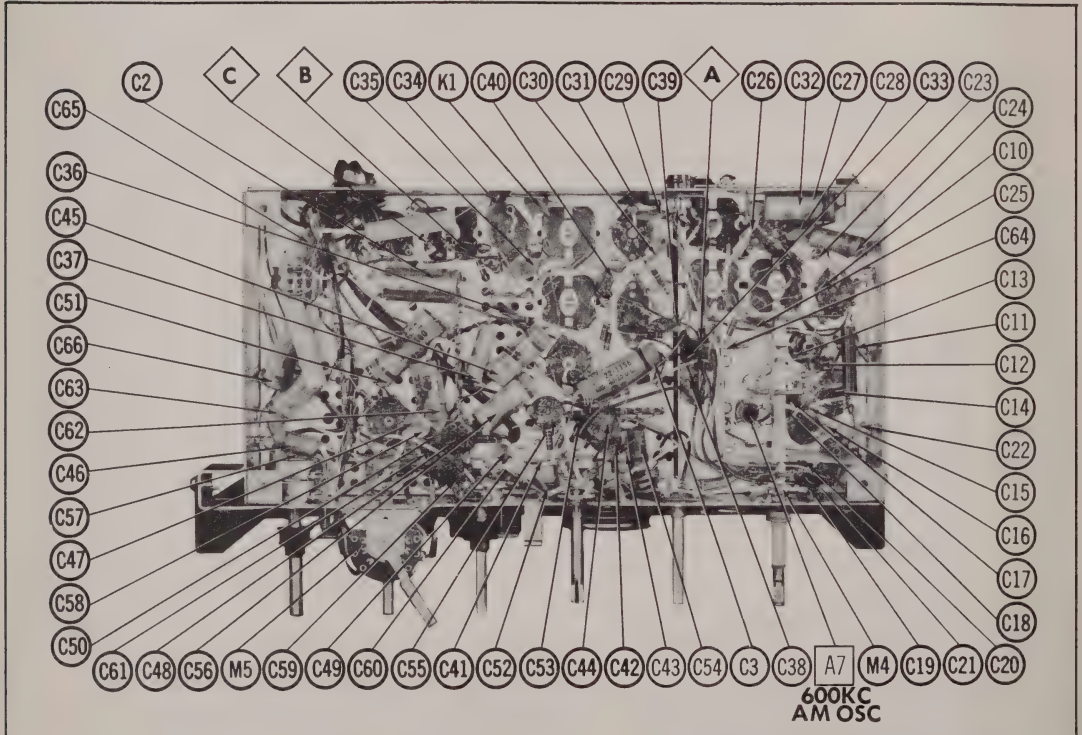
HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana

The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of KN940

the particular type of replacement part listed. Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. © 1962 Howard W. Sams & Co., Inc., Indianapolis 6, Indiana. Printed in U.S. of America



TUNER CHASSIS-TOP VIEW



TUNER CHASSIS BOTTOM VIEW-ALIGN., CAPACITOR & MISC. IDENT.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	GENERAL ELECTRIC • RAYTHEON • SYLVANIA • TYPE
V1	FM RF Amp.	6BJ6
V2	FM-AM Mixer - FM-AM Osc.	12AT7
V3	FM AFC	6AB4
V4	1st FM-AM IF Amp.	6BA6
V5	2nd FM-AM IF Amp.	6BA6
V6	FM Limiter	6AU6
V7	Disc. -AM Det-AVC	6BC7
V8	Left Channel AF Amp. - Right Channel AF Amp.	12AX7
V9	Left Channel AF Amp. - Right Channel AF Amp.	12AU7A
V10	Left Channel Output	EL84/6BQ5
V11	Right Channel Output	EL84/6BQ5
V12	Rectifier	5U4GB

ELECTROLYTIC CAPACITORS

ITEM No.	RATING CAP	RATING VOLT.	REPLACEMENT DATA ZENITH PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	ø80	450	22-3159	AFH3-46	C0370	XC3-32	FP378	TMT-3763	TVL-3793
B	ø40	450							
C	ø30	350							
C2	10	350	22-2943	PRS1830	BR1045	QT1-6	TC62	TD-10-450	TVA-1804
C3	40	25	22-1156	PRS1470	BR4015	QT1-13	TC48	TD-40-150	TVA-1413
C4	50	25	22-1561	PT185	NLW50-25	MT1-17	TC29	MLV50-25	TE-1209
C5	3	30NP	22-2945	PRS7405	BBR4-150	NPQT-1	TCN503		TVANS-1215*
C6	3	30NP	22-2945	PRS7405	BBR4-150	NPQT-1	TCN503		TVANS-1215*

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C7	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C8	7.5			DD-7R5	L10Q8		GP580	10TS-V75
C9	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C10	.001		SI 1000	D6-102	BYA10D1	CCD-102	B-210	5HK-D10
C11	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C12	.001		SI 1000	D6-102	BYA10D1	CCD-102	B-210	5HK-D10
C13	22 N750 5%			DTN-22	C10Q23U		CN7-472	10TCU-Q22
C14	.68 10%		NPO-SI .68	TCZ-R68				
C15	.001		SI 1000	D6-102	BYA10D1	CCD-102	B-210	5HK-D10
C16	19 N150 5%	#22-3231				*		10TCP-Q18
C17	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C18	50 N330	#22-2370				*		10TCS-Q47
C19	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C20	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C21	220 10%		DI-220	DD-221	L10T22	CCD-221	GP322	10TS-T22
C22	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C23	.001		EF-001	MFT-1000		CCF-102	CT280A	
C24	.047 200V		P488N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C25	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C26	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C27	.0047 10%		DI-4700		PM6D47	CCD-472	JL-247	10TS-D47
C28	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C29	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C30	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C31	.0022		BPD-0022	DD-222	BYA10D22	CCD-222	B-122	5HK-D22
C32	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C33	100		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C34	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C35	.01		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C36	.001 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C37	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C38	.047 200V		P288N-047	DD-503	CUB2S47	4DP-3-473	GEM-4147	2TM-S47
C39	.001 10%		DI-1000	DD-102	PM6D1	CCD-102	GP210	10TS-D10
C40	.0015 10%		DI-1500	DD-152	PM6D15	CCD-152	GP215	10TS-D15
C41	47 N75 10%	#22-2376				*		
C42	.0022 10%		DI-2200		PM6D22	CCD-222	GP222	10TS-D22
C43	.0047 200V 10%		V84C2D47-10%		PM6D47	6DP-1-472	GEM-16247	6TM-D47
C44	.0022 10%		DI-2200		PM6D22	CCD-222	GP222	10TS-D22
C45	.047 600V		P888N-047	DD-503	CUB6S47	6DP-3-473	GEM-6147	6TM-S47
C46	.0047 200V 10%		V84C2D47-10%		PM6D47	6DP-1-472	GEM-16247	6TM-D47
C47	150 N750 10%		N750-DI 150		C10T15U	CCTN-151	CN7-315	10TCU-T15
C48	.0022 10%		DI-2200		PM6D22	CCD-222	GP222	10TS-D22
C49	.0033 200V 10%		V84C4D33-10%		PM6D33	6DP-1-332	GEM-16233	6TM-D33
C50	100 10%		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C51	.1 600V		P888N-1	DF-104	CUB6P1	6DP-4-104	GEM-601	6TM-P10
C52	47 N75 10%	#22-2376				*		
C53	.0022 10%		DI-2200		PM6D22	CCD-222	GP222	10TS-D22
C54	.0047 200V 10%		V84C2D47-10%		PM6D47	6DP-1-472	GEM-16247	6TM-D47
C55	.0022 10%		DI-2200		PM6D22	CCD-222	GP222	10TS-D22
C56	.047 600V		P888N-047	DD-503	CUB6S47	6DP-3-473	GEM-6147	6TM-S47
C57	.0047 200V 10%		V84C2D47-10%		CUB6D47	6DP-1-472	GEM-16247	6TM-D47
C58	150 N750 10%		N750-DI 150	DTN-150	C10T15U	CCTN-151	CN7-315	10TCU-T15
C59	.0022 10%		DI-2200		PM6D22	CCD-222	GP222	10TS-D22
C60	.0033 200V 10%		V84C4D33-10%		PM6D33	6DP-1-332	GEM-16233	6TM-D33
C61	100 10%		DI-100	DD-101	L10T1	CCD-101	GP310	10TS-T10
C62	.1 600V		P888N-1	DF-104	CUB6P1	6DP-4-104	GEM-611	6TM-P10
C63	.22 200V 10%		V84C2P22-10%		PM6P22	2DP-4-224	GEM-2022	2TM-P22
C64	.001		EF-001	MFT-1000		CCF-102	CT280A	
C65	.01 1400V		DAC-27	DD16-103	HVE16S1	16DP-3-103	DAC-110	BL-S10
C66	.047 600V		P888N-047	DD-503	CUB6S47	6DP-3-473	GEM-6147	6TM-S47
C67	47 N75 10%	#22-2376				*		
C68	47 N75 10%	#22-2376				*		
C69	.068 200V 10%		V84C2S68-10%		PM4S68	4DP-3-683		4TM-S68
C70	.1 200V 10%		V84C2P1-10%		PM2P1	2DP-3-104	GEM-201	2TM-P10
C71	.022 200V 10%		V84C2S22-10%		PM4S22	4DP-2-223	GEM-1612	2TM-S22
C72	.22 200V 10%		V84C2P22-10%		PM2P22	2DP-4-224	GEM-2022	2TM-P22
C73	.1 400V		CUB4P1	DF-104	CUB4P1	4DP-3-104	GEM-401	4TM-P10

ϕ Zenith Part Number.
* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise stated.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA ZENITH PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1A	Loudness, Right Ch.	2meg①	63-4631	BT-175, STR-175, or (ABT-175, STR-175, AK-11) TPL-105			FA26DT16, RU26DT16, CS3500
B	Loudness, Left Ch.	2meg①					
R2A	Bass, Right Channel	1meg	63-4460				
B	Bass, Left Channel, With Switch (Of-On)	1meg					
R3A	Presence, Right Ch.	1meg	63-4725	B-68, SR-68, or (AB-68, SR-68, AK-7)			FA16R, RU16R, CS3500
B	Presence, Left Ch.	1meg					
R4A	Treble, Right Ch.	1meg	63-4735	B-70, SR-70, or (AB-70, SR-70, AK-7)	AD47-1meg-Z/ FS-3		FA16A, RU16A, CS3500
B	Treble, Left Ch.	1meg					
R5	Tube Balance	100Ω	63-4732	B-1, or (AB-1, AK-7)			U1

① Taps at 500K and 1meg.

RESISTORS

All wattages 1/2 watt, or less, unless otherwise stated.

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN TV PART No.	REMARKS
R6	2.2meg			
R7	220Ω			
R8	220Ω			
R9	220Ω			
R10	1000Ω			
R11	10K			
R12	2200Ω			
R13	47Ω			
R14	100K			
R15	1800Ω			
R16	2.2meg			
R17	220Ω			
R18	47K			
R19	2.2meg			
R20	4.7meg			
R21	4.7meg			
R22	220K			
R23	220Ω			
R24	100K			
R25	220Ω			
R26	100Ω			
R27	15K			
R28	150K			
R29	100K			
R30	150K			
R31	33K			
R32	560K			
R33	1meg			
R34	22K			
R35	2.2meg			
R36	100K			
R37	10K 1W			
R38	680Ω			
R39	82K			
R40	100K			
R41	150K			
R42	560K			
R43	560K			
R44	2.2meg			
R45	82K			
R46	33K			
R47	47K			
R48	2700Ω			
R49	1meg			
R50	1200Ω			
R51	2.2meg			
R52	100K			
R53	82K			

RESISTORS (cont)

ITEM No.	RATING	REPLACEMENT DATA IRC PART No.	WORKMAN TV PART No.	REMARKS
R54	33K			
R55	150K			
R56	560K			
R57	82K			
R58	2.2meg			
R59	56K			
R60	33K			
R61	2700Ω			
R62	1meg			
R63	2200Ω 10W	PW10-2200	10W-SQ-2200	
R64	2000Ω 10W	PW10-2000	10W-SQ-2000	
R65	1meg			
R66	56K			
R67	270K			
R68	1000Ω			
R69	1meg			
R70	150Ω 2W			
R71	15K			
R72	2200Ω			
R73	1000Ω			
R74	10K			
R75	2200Ω			
R76	330Ω			
R77	1000Ω			
R78	1meg			
R79	2000Ω 4W	PW4-2000	4W-SQ-2000	
R80	2000Ω 4W	PW4-2000	4W-SQ-2000	
R81	18K			
R82	1200Ω 7W	PW7-1200	7W-SQ-1200	
R83	47K			

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	ZENITH PART No.	REPLACEMENT DATA
K1	FM Limiter Grid	25mmf (N330), 100K	105-42	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA ZENITH PART No.	Merit PART No.	Miller PART No.	Stancor PART No.	Workman TV PART No.	NOTES
L1	RF Choke(3.9uh)	20-337	BC-564	4608	RTC-8518	T858	
L2	FM RF	S-15743					
L3	FM Osc.	S-15691					
L4	Loop Ant.	S-46649					
L5	BC Osc.	S-46688					
L6	FIL Choke(3.9uh)	20-337	BC-564	4608	RTC-8518	T858	
L7	1st FM IF	95-1150	FM-251	1451	RTC-9038	T630	
L8	1st AM IF	95-1250	BC-347	12-C12	RTC-8677		
L9A	2nd FM IF	95-1251					
B	2nd AM IF						
L10	3rd FM IF	95-1150	FM-251	1451	RTC-9038	T630	
L11	3rd AM IF	95-1102	BC-355	12-C6	RTC-8634	T609	
L12	Discriminator	95-1153					
L13	RF Choke	20-682					

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	SEC. 1	SEC. 2	REPLACEMENT DATA ZENITH PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T1	117V②	680VCT ③ .130A DC	5V ③ 3A	95-1786					
	1.1A								
	SEC. 3	SEC. 4	SEC. 5						
	6.3VCT ③ 2.3A	6.3V ③ 2.1A							

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	SEC. 1	REPLACEMENT DATA ZENITH PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	NOTES
T2	7800Ω Tap ③ 2.6%	12Ω CT SEC. 2	95-1787					① Alt #95-1788
		190Ω SEC. 1						
T3	10K Tap ③ 3%	3-4Ω SEC. 2	95-1788AK①					
		400Ω						

SPEAKER

ITEM No.	TYPE SIZE	FIELD	V. C. IMP.	REPLACEMENT DATA ZENITH PART No.	QUAM PART No.	NOTES
SP1	12"	PM	6-8Ω	49-852	12A6PA	
SP2	5"	PM	3-4Ω	49-856	5A1	
SP3	12"	PM	6-8Ω	49-852	12A6PA	
SP4	5"	PM	3-4Ω	49-856	5A1	

PHONO CARTRIDGE & NEEDLES

*NEEDLE LISTINGS SHOWN ARE FOR RESPECTIVE REPLACEMENT CARTRIDGES ONLY.

ITEM No.	REPLACEMENT DATA ZENITH PART No. CARTRIDGE	NEEDLE*	ASTATIC PART No. CARTRIDGE	NEEDLE*	ELECTRO-VOICE PART No. CARTRIDGE	NEEDLE*	SONOTONE PART No. CARTRIDGE	NEEDLE*	NOTES
M1	142-108	Not Req.	13TB	Not Req.	106	2604*	8TA4-S	N-8TA-S*	
						2605*			

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA ZENITH PART No. FUSE	ZENITH PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	BUSS PART No. FUSE	BUSS PART No. HOLDER
M2	3AG	4A 250V	136-31	62-23 15-201(Cap)	312004 (3AG 4A 250V)	342001	MTH4	HKP

MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
M3	Tuning Cap.	22-3019	2 Gang., (Ant. 7—403mmf, Osc. 9—134mmf)
M4	Switch	85-681	Function Selector (Rotary Wafer Type)
M5	Switch	85-676	Mono-Stereo (Rotary Wafer, Lever Operated)

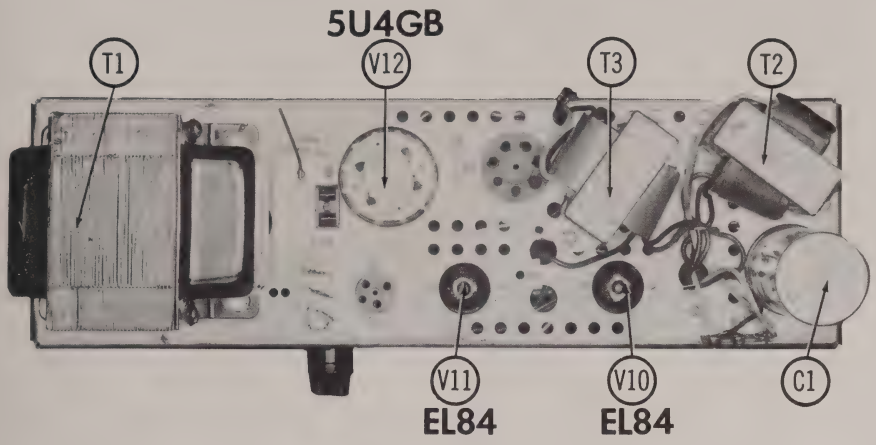
CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

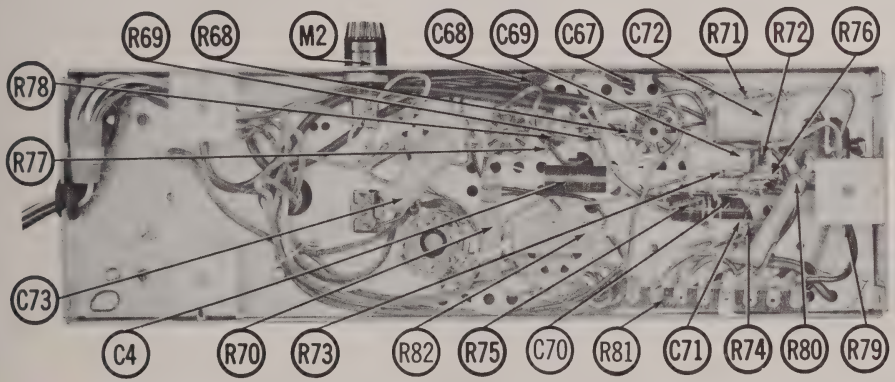
NAME	PART NO.	DESCRIPTION
Dial Scale	26-684	
Dial Crystal	192-298	
Dial Pointer	59-379	
Treble Pointer	59-382	
Presence Pointer	59-383	
Bass Pointer	59-384	
Knob	S-47939	With Clamping Ring, Balance
Knob	S-50475	With Clamping Ring, Bass
Knob	S-50482	With Clamping Ring, Treble
Knob	S-50483	With Clamping Ring, Presence
Knob	46-2266	Loudness
Knob	46-2586	Stereo Switch
Knob	46-2263	Function Selector
Cabinet	14-3322	Model SFF2535R
Cabinet	14-3323	Model SFF2535M

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in Ten Colors 8524 (Stranded) Available in Ten Colors
Power Cord	Use BELDEN No. 1765-B (5 Ft. Length) 1725-K (7½ Ft. Length)
Low-Loss Shielded Lead (Interconnecting)	Use BELDEN No. 8401
Phono Pick-up Arm Cable	Use BELDEN No. 8430 (Two Conductor - Twisted)



AMP CHASSIS-TOP VIEW



AMP CHASSIS-BOTTOM VIEW

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Use only enough generator output to provide a usable indication.
Suggested Alignment Tools:
A1 thru A5, A7, A9 thru A15..... GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
WALSCO #2526, 2543, 2544, 2545
A6, A8..... GENERAL CEMENT #5004, 5008, 5009
WALSCO #2520

AM ALIGNMENT — SELECTOR IN AM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .05mfd to pin 7 (grid) of Mixer. Low Low side to chassis.	455KC (400~ 30% AM)	(AM) Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4, A5	Adjust for maximum output.
2.	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1600KC	1600KC	"	A6	"
3.	"	600KC	600KC	"	A7	"
4.	"	1400KC	1400KC	"	A8	Adjust for maximum output. Repeat Steps 2, 3 and 4.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM — SELECTOR IN FM POSITION

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
5.	High side thru .05mfd to pin 1 (grid) of Limiter. Low side to chassis.	10.7MC (Unmod.)	(FM) Point of non-interference.	DC probe thru 1meg to point Ⓑ. Common to chassis.	A9	Adjust for maximum deflection.
6.	"	"	"	DC probe to point Ⓒ. Common to chassis.	A10	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.
7.	High side thru .05mfd to pin 7 (grid) of Mixer. Low side to chassis.	"	"	DC probe to pin 1 (grid) of Limiter Common to chassis.	A11, A12, A13, A14, A15	Adjust for maximum deflection.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE — SELECTOR IN FM POSITION

Use frequency modulated signal with 60~ modulation and 450KC sweep. Use 120~ sawtooth voltage in scope for horizontal deflection.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
5.	High side thru .05mfd to pin 1 (grid) of Limiter. Low side to chassis.	10.7MC (450KC Swp.)	(FM) Point of non-interference.	Vert. amp. thru 47K to point Ⓑ. Low side to chassis.	A9	Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown.
6.	"	"	"	Vert. amp. to point Ⓒ. Low side to chassis.	A10	Adjust to place marker at the center of crossover lines similar to Fig. 2. SLIGHTLY retouch A8 for maximum amplitude and straightness of crossover lines.
7.	High side thru .05mfd to pin 7 (grid) of Mixer. Low side to chassis.	"	"	Vert. amp. to pin 1 (grid) of Limiter. Low side to chassis.	A11, A12, A13, A14, A15	Adjust for maximum gain and symmetry of response similar to Fig. 1 with markers as shown.

FM RF ALIGNMENT — SELECTOR IN FM POSITION

Remove antenna.

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
8.	Across FM antenna terminals with 120Ω in each lead.	98MC (Unmod.)	(FM) 98MC	DC probe to pin1 (grid) of Limiter. Common to chassis.	A16, A17	Adjust for maximum deflection.

FIG. 1

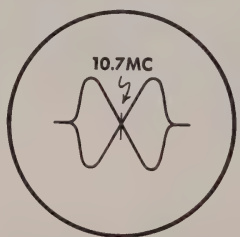
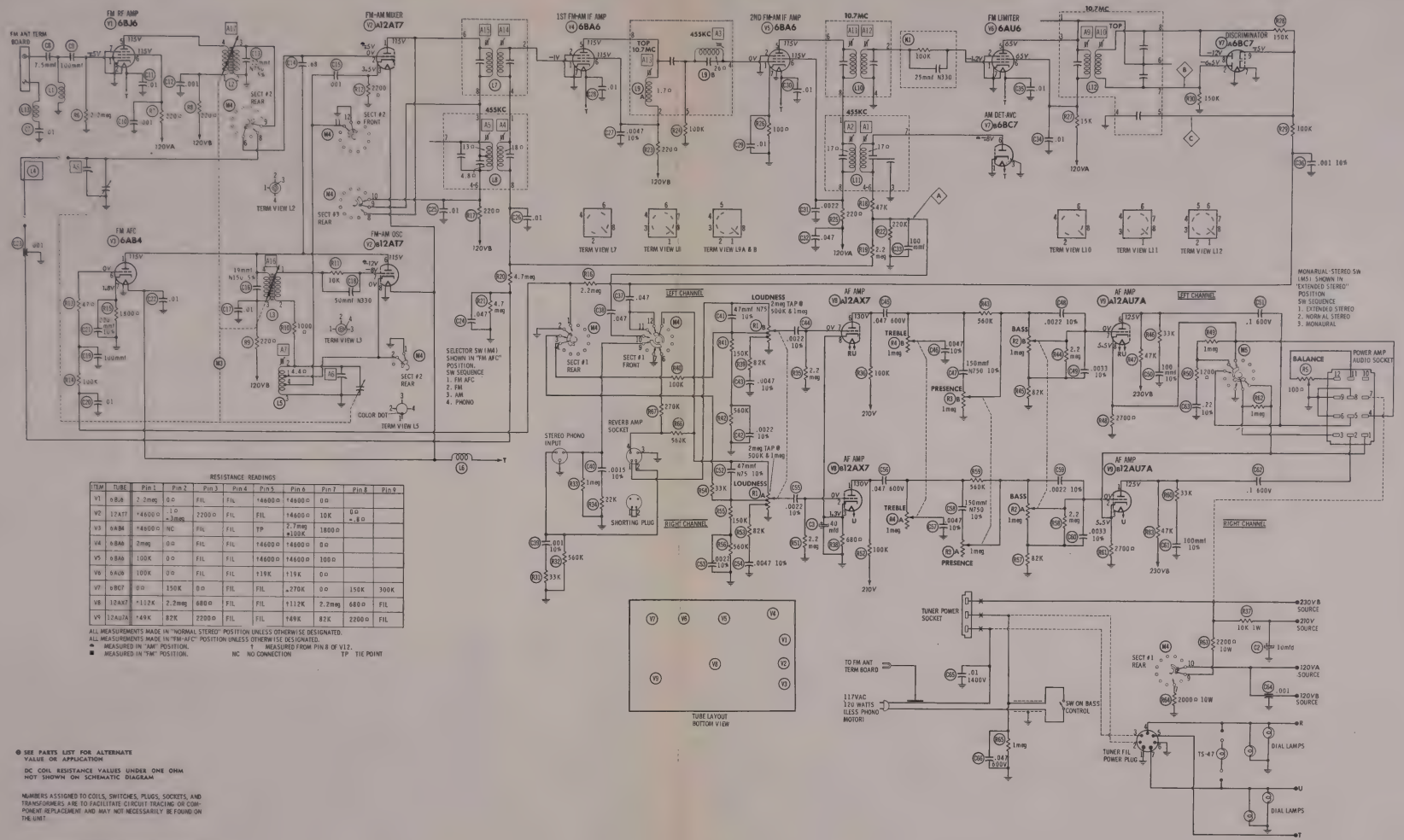


FIG. 2



RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BJ6	2.2meg	0Ω	FIL	FIL	↑4600Ω	↑4600Ω	0Ω		
V2	12AT7	↑4600Ω	10 ⇌3meg	2200Ω	FIL	FIL	↑4600Ω	10K	0Ω ⇌.8Ω	
V3	6AB4	↑4600Ω	NC	FIL	FIL	TP	2.7meg ⇌100K	1800Ω		
V4	6BA6	2meg	0Ω	FIL	FIL	↑4600Ω	↑4600Ω	0Ω		
V5	6BA6	100K	0Ω	FIL	FIL	↑4600Ω	↑4600Ω	100Ω		
V6	6AU6	100K	0Ω	FIL	FIL	↑19K	↑19K	0Ω		
V7	6BC7	0Ω	150K	0Ω	FIL	FIL	⌐270K	0Ω	150K	300K
V8	12AX7	↑112K	2.2meg	680Ω	FIL	FIL	↑112K	2.2meg	680Ω	FIL
V9	12AU7A	↑49K	82K	2200Ω	FIL	FIL	↑49K	82K	2200Ω	FIL

ALL MEASUREMENTS MADE IN "NORMAL STEREO" POSITION UNLESS OTHERWISE DESIGNATED.
ALL MEASUREMENTS MADE IN "FM-AFC" POSITION UNLESS OTHERWISE DESIGNATED.
▬ MEASURED IN "AM" POSITION. ↑ MEASURED FROM PIN 8 OF V12.
■ MEASURED IN "FM" POSITION. NC NO CONNECTION TP TIE POINT

⊕ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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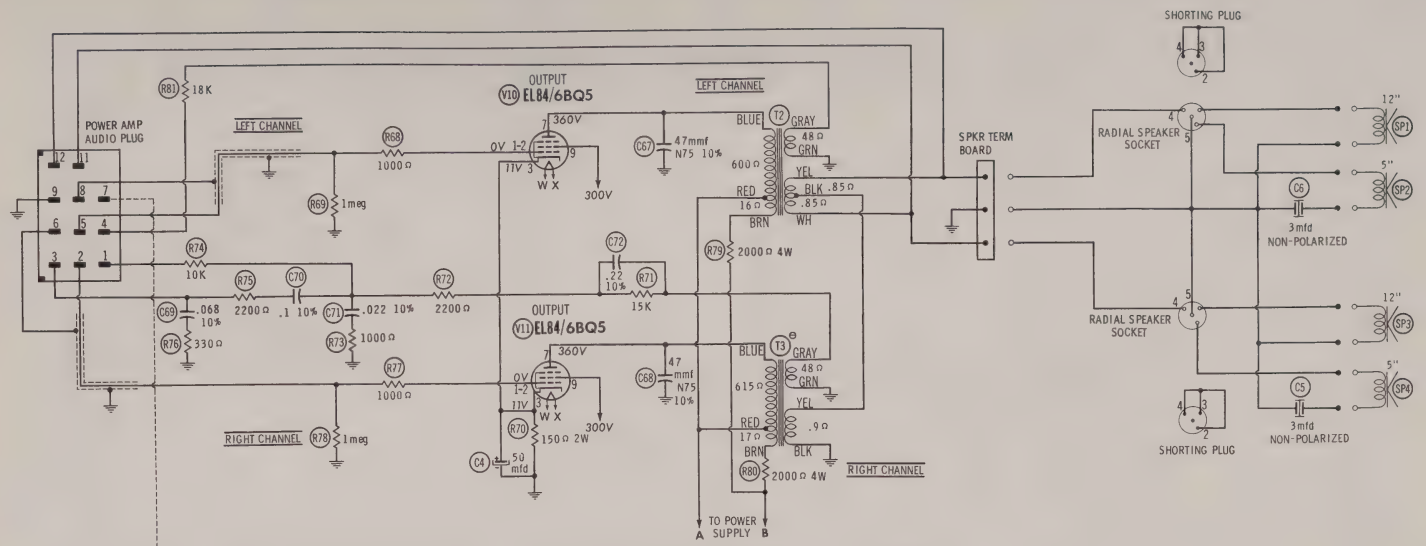
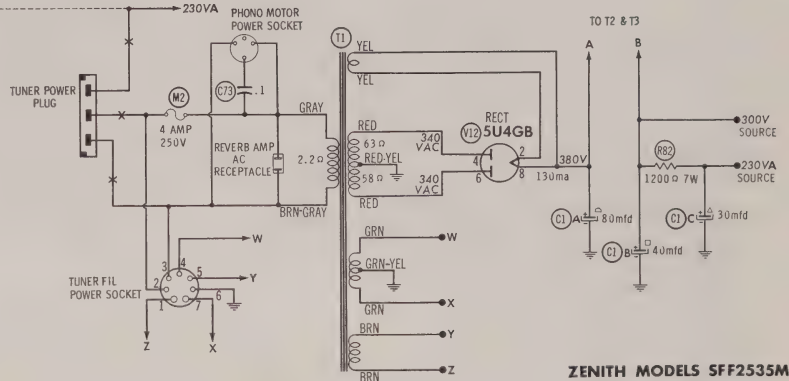
ZENITH MODELS SFF2535M, R (Ch. 3F32, 9F26)





RESISTANCE READINGS (Cont.)

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V10	EL84 6BQ5	NC	1meg ▲1000Ω	150Ω	FIL	FIL	NC	†600Ω	NC	†1000Ω
V11	EL84 6BQ5	NC	1meg	150Ω	FIL	FIL	NC	†615Ω	NC	†1000Ω
V12	5U4GB	NC	¶ INF	NC	63Ω	NC	58Ω	TP	¶ INF	

¶ THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.
▲ MEASURED IN "MONAURAL" POSITION.
† MEASURED FROM PIN 8 OF V12.

NC NO CONNECTION
TP TIE POINT

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common ground.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance of component values makes possible a variation of ±15% in voltage and resistance readings.
6. proper output load connected.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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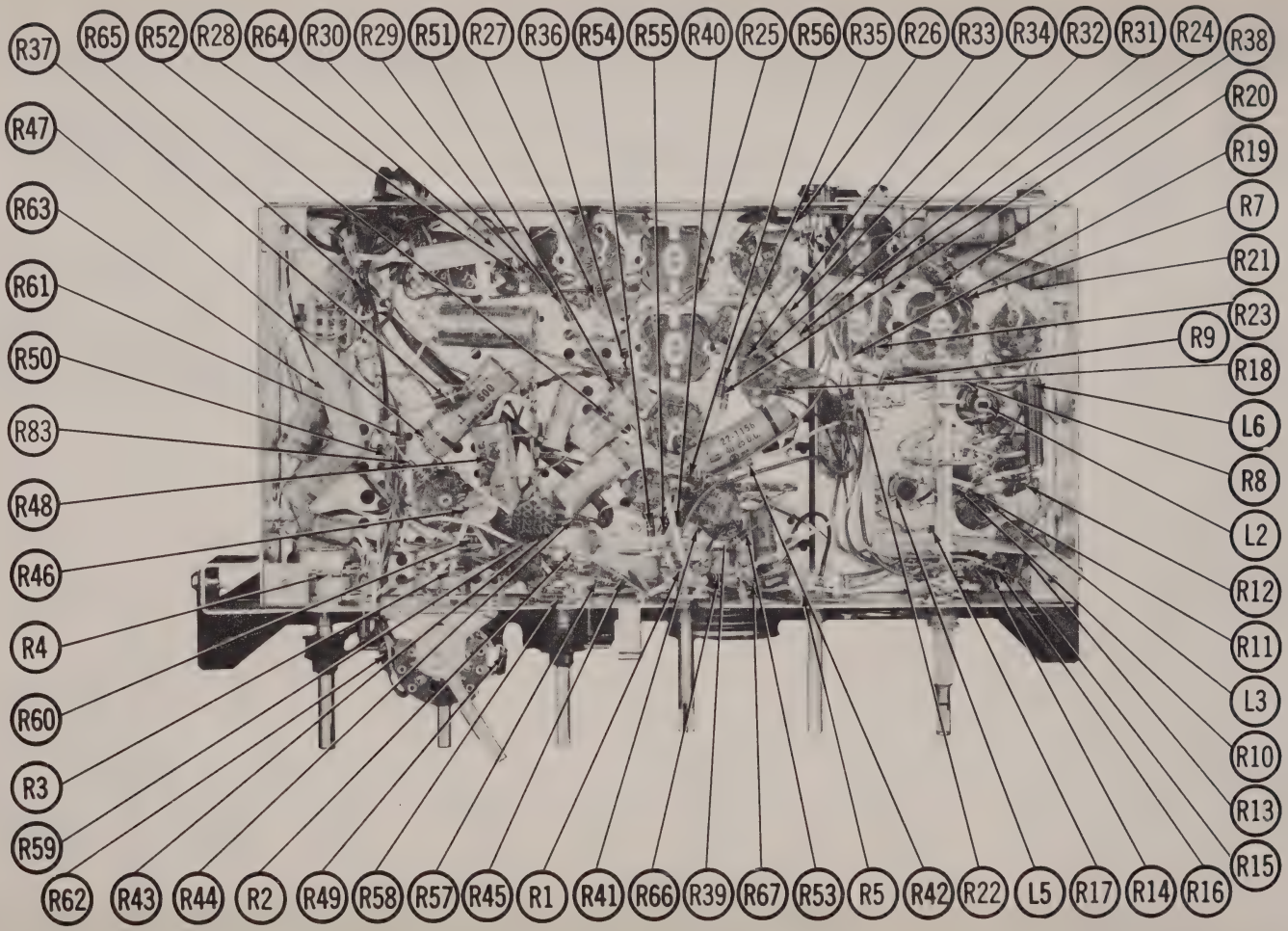
⊖ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

ZENITH MODELS SFF2535M, R (Ch. 3F32, 9F26)

ZENITH MODELS SFF2535M, R (Ch. 3F32, 9F26)



TUNER CHASSIS BOTTOM VIEW-RESISTOR & INDUCTOR IDENT.

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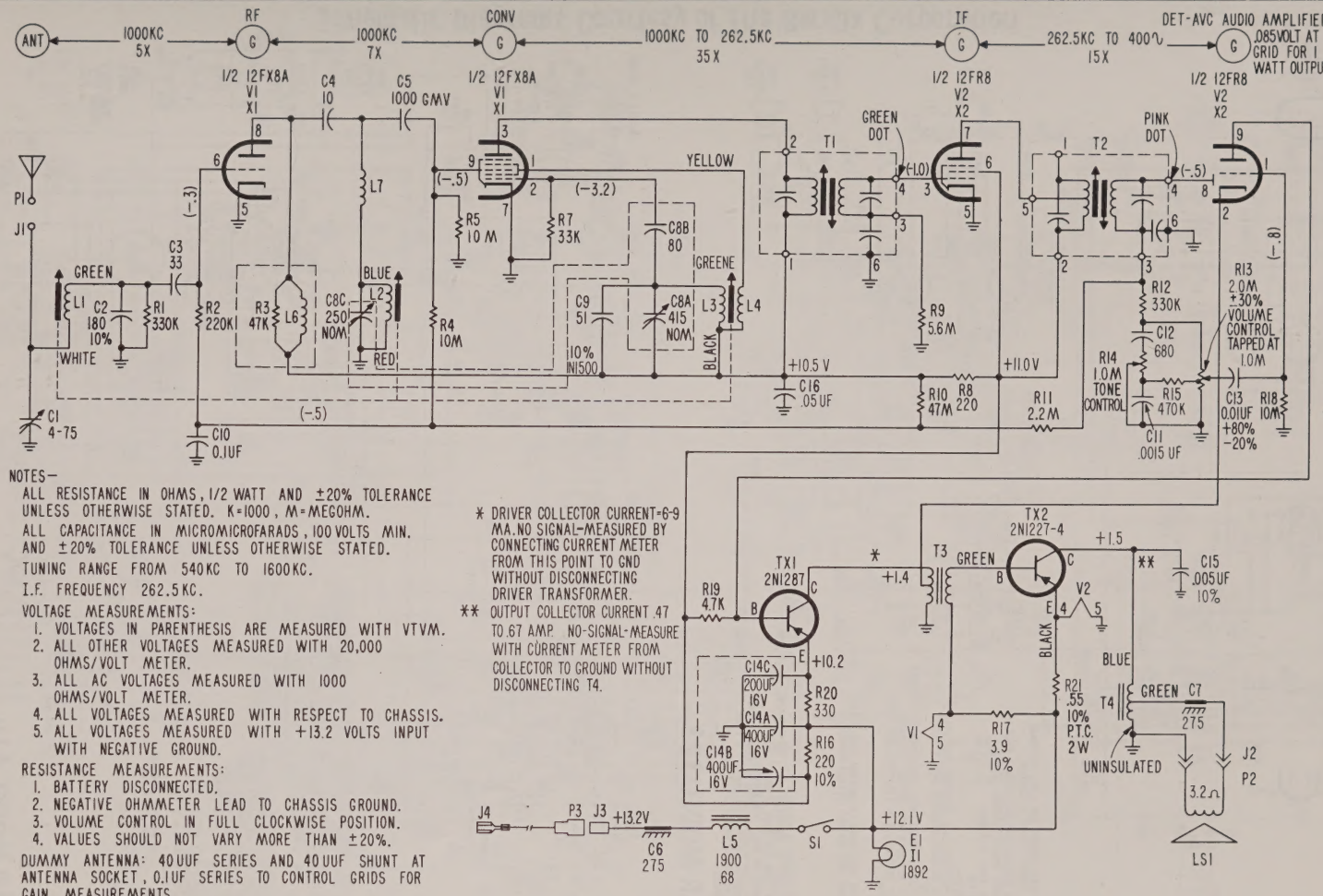


NOTES—

ALL RESISTANCE IN OHMS, 1/2 WATT AND ±20% TOLERANCE UNLESS OTHERWISE STATED. K=1000, M=MEGOHM.

ALL CAPACITANCE IN MICROMICROFARADS, 100 VOLTS MIN. AND ±20% TOLERANCE UNLESS OTHERWISE STATED.

TUNING RANGE FROM 540KC TO 1600KC.

I.F. FREQUENCY 262.5KC.

VOLTAGE MEASUREMENTS:

1. VOLTAGES IN PARENTHESIS ARE MEASURED WITH VTVM.
2. ALL OTHER VOLTAGES MEASURED WITH 20,000 OHMS/VOLT METER.
3. ALL AC VOLTAGES MEASURED WITH 1000 OHMS/VOLT METER.
4. ALL VOLTAGES MEASURED WITH RESPECT TO CHASSIS.
5. ALL VOLTAGES MEASURED WITH +13.2 VOLTS INPUT WITH NEGATIVE GROUND.

RESISTANCE MEASUREMENTS:

1. BATTERY DISCONNECTED.
2. NEGATIVE OHMMETER LEAD TO CHASSIS GROUND.
3. VOLUME CONTROL IN FULL CLOCKWISE POSITION.
4. VALUES SHOULD NOT VARY MORE THAN ±20%.

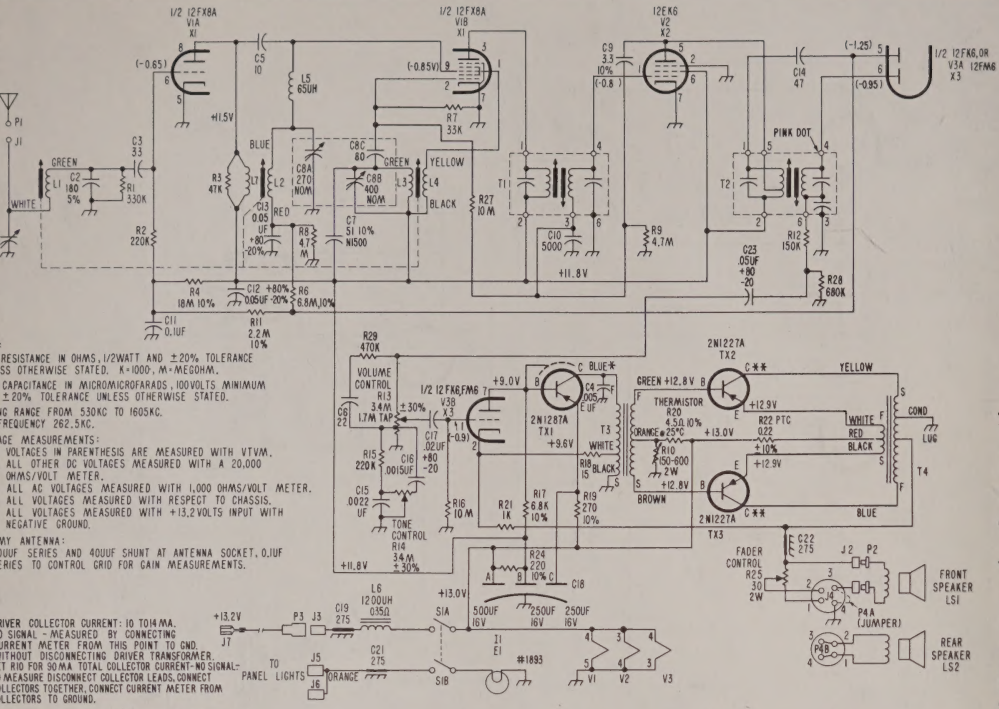
DUMMY ANTENNA: 40 UUF SERIES AND 40 UUF SHUNT AT ANTENNA SOCKET, 0.1UF SERIES TO CONTROL GRIDS FOR GAIN MEASUREMENTS.

* DRIVER COLLECTOR CURRENT=6-9 MA. NO SIGNAL-MEASURED BY CONNECTING CURRENT METER FROM THIS POINT TO GND WITHOUT DISCONNECTING DRIVER TRANSFORMER.

** OUTPUT COLLECTOR CURRENT .47 TO .67 AMP. NO-SIGNAL-MEASURE WITH CURRENT METER FROM COLLECTOR TO GROUND WITHOUT DISCONNECTING T4.

MOPAR MODEL 205

Schematic Diagram Courtesy of The Bendix Corporation



NOTES:
ALL RESISTANCE IN OHMS, 1/2WATT AND ±20% TOLERANCE UNLESS OTHERWISE STATED. K=1000, M=MEGOHM.

ALL CAPACITANCE IN MICROMICROFARADS, 100 VOLTS MINIMUM AND ±20% TOLERANCE UNLESS OTHERWISE STATED.

TUNING RANGE FROM 530KC TO 1605KC. IF FREQUENCY 262.5KC.

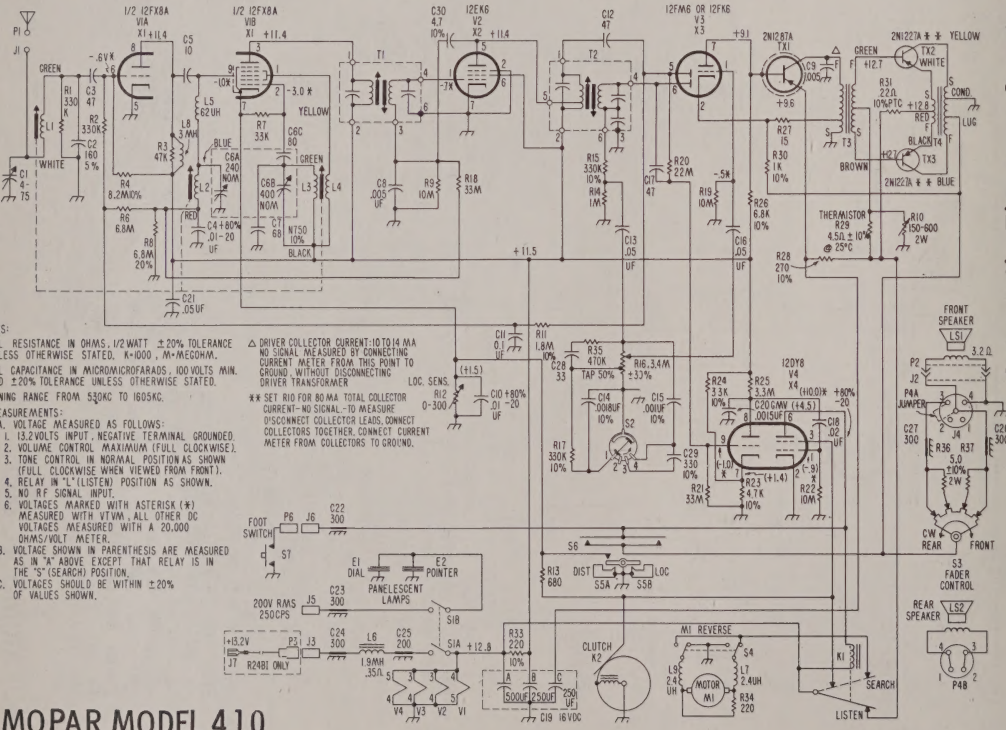
VOLTAGE MEASUREMENTS:
1. VOLTAGES IN PARENTHESIS ARE MEASURED WITH VTVM.
2. ALL OTHER DC VOLTAGES MEASURED WITH A 20,000 OHMS/VOLT METER.
3. ALL AC VOLTAGES MEASURED WITH 1,000 OHMS/VOLT METER.
4. ALL VOLTAGES MEASURED WITH RESPECT TO CHASSIS.
5. ALL VOLTAGES MEASURED WITH +13.2 VOLTS INPUT WITH NEGATIVE GROUND.

DUMMY ANTENNA:
400UUF SERIES AND 400UUF SHUNT AT ANTENNA SOCKET. 0.1UF SERIES TO CONTROL GRID FOR GAIN MEASUREMENTS.

* DRIVER COLLECTOR CURRENT: 10 TO 14 MA. NO SIGNAL - MEASURED BY CONNECTING CURRENT METER FROM THIS POINT TO GND. WITHOUT DISCONNECTING DRIVER TRANSFORMER.

** SET R10 FOR 90 MA TOTAL COLLECTOR CURRENT - NO SIGNAL - TO MEASURE DISCONNECT COLLECTOR LEADS, CONNECT COLLECTORS TOGETHER, CONNECT CURRENT METER FROM COLLECTORS TO GROUND.

MOPAR MODEL 323



NOTES:
ALL RESISTANCE IN OHMS, 1/2 WATT ±20% TOLERANCE UNLESS OTHERWISE STATED. K=1000, M=MEGOHM.

ALL CAPACITANCE IN MICROMICROFARADS, 100 VOLTS MIN. AND ±20% TOLERANCE UNLESS OTHERWISE STATED.

TUNING RANGE FROM 530KC TO 1605KC.

MEASUREMENTS:
A. VOLTAGE MEASURED AS FOLLOWS:
1. 13.2 VOLTS INPUT, NEGATIVE TERMINAL GROUNDED.
2. VOLUME CONTROL MAXIMUM (FULL CLOCKWISE).
3. TONE CONTROL IN NORMAL POSITION AS SHOWN (FULL CLOCKWISE WHEN VIEWED FROM FRONT).
4. RELAY IN "L" (LISTEN) POSITION AS SHOWN.
5. NO RF SIGNAL INPUT.
6. VOLTAGES MARKED WITH ASTERISK (*) MEASURED WITH VTVM. ALL OTHER DC VOLTAGES MEASURED WITH A 20,000 OHMS/VOLT METER.

B. VOLTAGE SHOWN IN PARENTHESIS ARE MEASURED AS IN "A" ABOVE EXCEPT THAT RELAY IS IN THE "S" (SEARCH) POSITION.

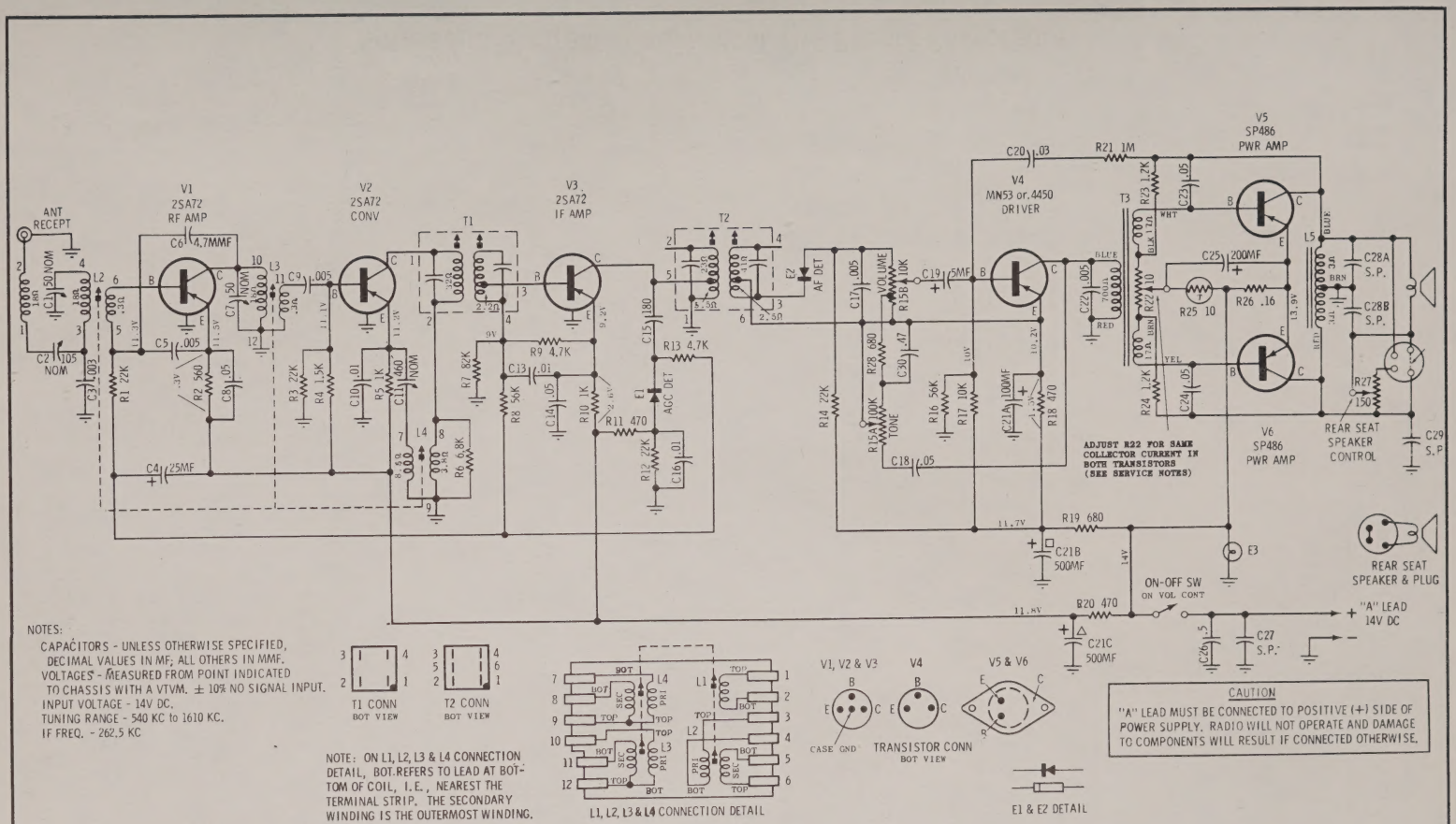
C. VOLTAGES SHOULD BE WITHIN ±20% OF VALUES SHOWN.

△ DRIVER COLLECTOR CURRENT: 10 TO 14 MA NO SIGNAL MEASURED BY CONNECTING CURRENT METER FROM THIS POINT TO GROUND, WITHOUT DISCONNECTING DRIVER TRANSFORMER.

** SET R10 FOR 80 MA TOTAL COLLECTOR CURRENT - NO SIGNAL - TO MEASURE DISCONNECT COLLECTOR LEADS, CONNECT COLLECTORS TOGETHER, CONNECT CURRENT METER FROM COLLECTORS TO GROUND.

MOPAR MODEL 410

Schematic Diagrams Courtesy of The Bendix Corporation



NOTES:

CAPACITORS - UNLESS OTHERWISE SPECIFIED, DECIMAL VALUES IN MF; ALL OTHERS IN MMF.
VOLTAGES - MEASURED FROM POINT INDICATED TO CHASSIS WITH A VTVM. ± 10% NO SIGNAL INPUT.
INPUT VOLTAGE - 14V DC.
TUNING RANGE - 540 KC to 1610 KC.
IF FREQ. - 262.5 KC

T1 CONN
BOT VIEW

T2 CONN
BOT VIEW

NOTE: ON L1, L2, L3 & L4 CONNECTION DETAIL, BOT. REFERS TO LEAD AT BOTTOM OF COIL, I.E., NEAREST THE TERMINAL STRIP. THE SECONDARY WINDING IS THE OUTERMOST WINDING.

L1, L2, L3 & L4 CONNECTION DETAIL

V1, V2 & V3 — V4 — V5 & V6

CASE GND

TRANSISTOR CONN
BOT VIEW

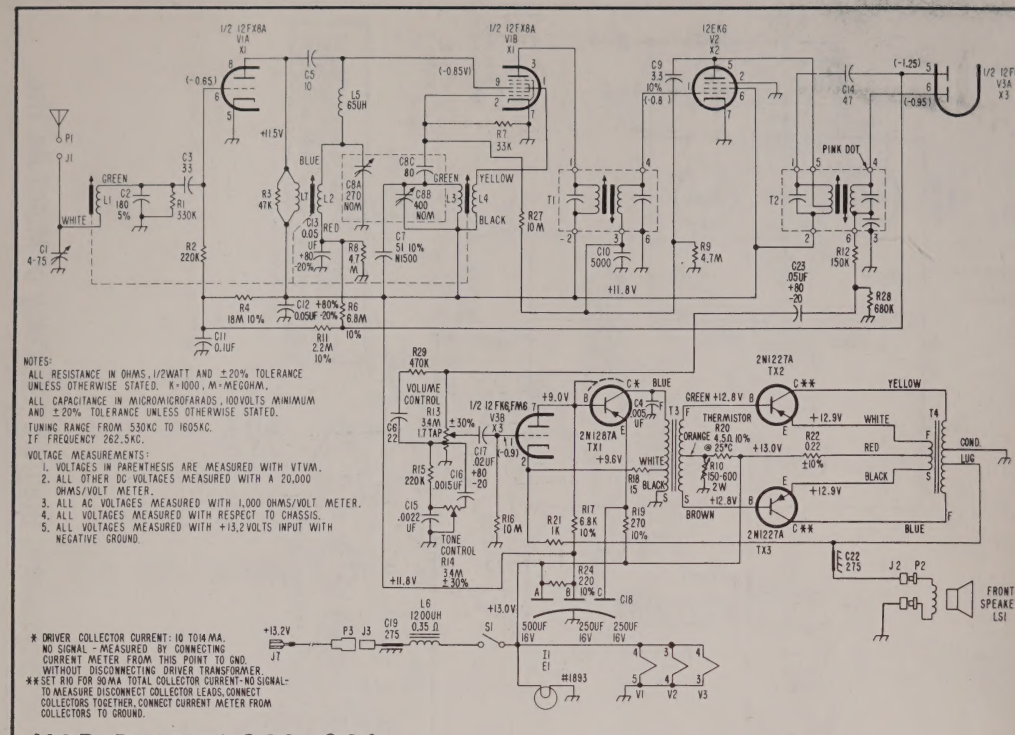
E1 & E2 DETAIL

CAUTION

"A" LEAD MUST BE CONNECTED TO POSITIVE (+) SIDE OF POWER SUPPLY. RADIO WILL NOT OPERATE AND DAMAGE TO COMPONENTS WILL RESULT IF CONNECTED OTHERWISE.

MOTOROLA MODEL CTM62

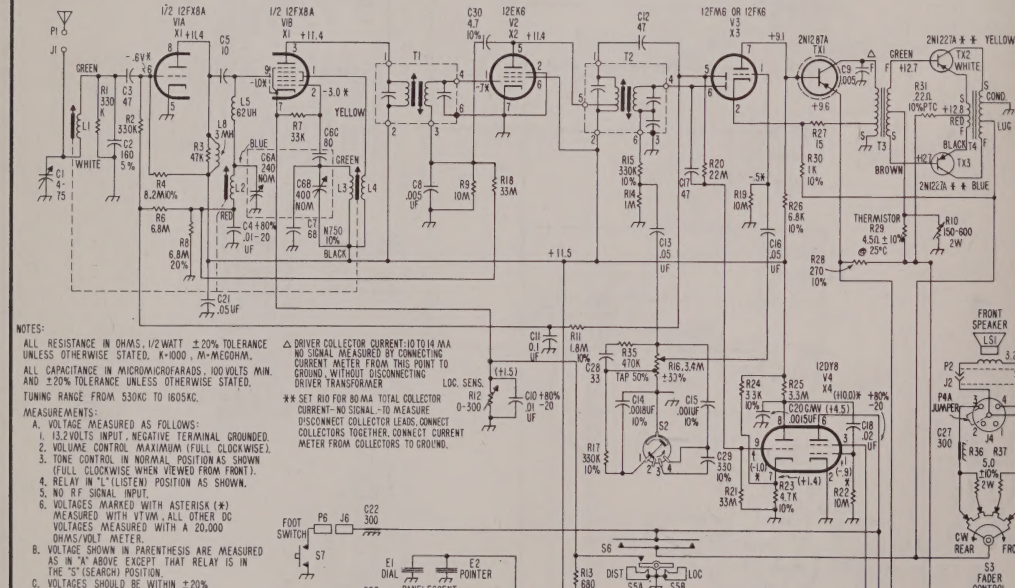
Schematic Diagram Courtesy of Motorola Inc.



NOTES:
ALL RESISTANCE IN OHMS, 1/2WATT AND ±20% TOLERANCE UNLESS OTHERWISE STATED. K=1000, M=MEGOHM.
ALL CAPACITANCE IN MICROMICROFARADS, 100VOLTS MINIMUM AND ±20% TOLERANCE UNLESS OTHERWISE STATED.
TUNING RANGE FROM 530KC TO 1605KC.
IF FREQUENCY 262.5KC.
VOLTAGE MEASUREMENTS:
1. VOLTAGES IN PARENTHESIS ARE MEASURED WITH VTVM.
2. ALL OTHER DC VOLTAGES MEASURED WITH A 20,000 OHMS/VOLT METER.
3. ALL AC VOLTAGES MEASURED WITH 1,000 OHMS/VOLT METER.
4. ALL VOLTAGES MEASURED WITH RESPECT TO CHASSIS.
5. ALL VOLTAGES MEASURED WITH +13.2 VOLTS INPUT WITH NEGATIVE GROUND.

* DRIVER COLLECTOR CURRENT: 10 TO 14 MA. NO SIGNAL - MEASURED BY CONNECTING CURRENT METER FROM THIS POINT TO GND. WITHOUT DISCONNECTING DRIVER TRANSFORMER.
** SET R10 FOR 30 MA TOTAL COLLECTOR CURRENT - NO SIGNAL - TO MEASURE DISCONNECT COLLECTOR LEADS, CONNECT COLLECTORS TOGETHER, CONNECT CURRENT METER FROM COLLECTORS TO GROUND.

MOPAR MODEL 322, 324



NOTES:
ALL RESISTANCE IN OHMS, 1/2 WATT ±20% TOLERANCE UNLESS OTHERWISE STATED. K=1000, M=MEGOHM.
ALL CAPACITANCE IN MICROMICROFARADS, 100 VOLTS MIN. AND ±20% TOLERANCE UNLESS OTHERWISE STATED.
TUNING RANGE FROM 530KC TO 1605KC.
MEASUREMENTS:
A. VOLTAGE MEASURED AS FOLLOWS:
1. 13.2 VOLTS INPUT, NEGATIVE TERMINAL GROUNDED.
2. VOLUME CONTROL MAXIMUM (FULL CLOCKWISE).
3. TONE CONTROL IN NORMAL POSITION AS SHOWN (FULL CLOCKWISE WHEN VIEWED FROM FRONT).
4. RELAY IN "L" (LISTEN) POSITION AS SHOWN.
5. NO RF SIGNAL INPUT.
6. VOLTAGES MARKED WITH ASTERISK (*) MEASURED WITH VTVM, ALL OTHER DC VOLTAGES MEASURED WITH A 20,000 OHMS/VOLT METER.
B. VOLTAGE SHOWN IN PARENTHESIS ARE MEASURED AS IN "A" ABOVE EXCEPT THAT RELAY IS IN THE "S" (SEARCH) POSITION.
C. VOLTAGES SHOULD BE WITHIN ±20% OF VALUES SHOWN.

△ DRIVER COLLECTOR CURRENT: 10 TO 14 MA NO SIGNAL MEASURED BY CONNECTING CURRENT METER FROM THIS POINT TO GROUND, WITHOUT DISCONNECTING DRIVER TRANSFORMER.
** SET R10 FOR 80 MA TOTAL COLLECTOR CURRENT - NO SIGNAL - TO MEASURE DISCONNECT COLLECTOR LEADS, CONNECT COLLECTORS TOGETHER, CONNECT CURRENT METER FROM COLLECTORS TO GROUND.

MOPAR MODEL 409

Schematic Diagrams Courtesy of The Bendix Corporation